XVIII. APPENDIX TABLE OF CONTENTS

Appendix	Description	Reference	Page(s)
1.	Missouri's Early Learning Standards	(A)(1)	28, 68
2.	Missouri Higher Education Core Competencies and Standards	(A)(1) (B)(1)(ii)	28, 57
3.	Public Television Station Agreement	(A)(1)	33
4.	Memorandum of Understanding between State and LEAs	(A)(1)(ii)	34
5.	Detailed Table of LEAs	(A)(1)	38
6.	Implementation Audit	(A)(1)(ii) (D)(5)(ii)	43, 157, 160
7.	LEA flow through table	(A)(2)(ii)(b)	45
8.	Description and participant list and agenda from Race to the Top Forum. November 23, 2009	(A)(2)(i)(d)	45
9.	Statewide Stakeholder RT3 Survey Summary	(A)(2)(ii)(b)	46
10.	Letters of Support	(A)(2)(ii)(b)	46
11.	State Board Agenda Item – Wellston School District	(A)(3)(i)	48
12.	NAEP test results	(A)(3)(ii)	49
13.	Memorandum of Understanding between State and National Governors Association and the Council of Chief State School Officers consortium to develop Common Core K-12 Standards and Career- and College-Readiness Standards.	(B)(1)(i)	56
14.	Summary of the benchmarking process from Benchmarking for Success: Ensuring U.S. Students Receive A World-Class Education	(B)(1)(i)	56
15.	Most Recent Drafts of Common Core K-12 Standards and Career- and College-Readiness Standards	(B)(1)(i)(a&b)	56

Appendix	Description	Reference	Page(s)
16.	SMARTER Balance Assessment Governing State Agreement	(B)(2)(i)	64
17.	SMARTER Balance Assessment Governing State Agreement MOU	(B)(2)(i)	65
18.	College Prep Certificate Program	(B)(3)	68
19.	Summary of Missouri's legal, statutory and regulatory authority to allow alternative routes to certification for teachers and principals. RSMo 168.021	(D)(1)(i)	111
20.	Current Model Performance Based Evaluations for Teachers and Principals	(D)(2)(ii)	118
21.	Draft Teaching Standards	(D)(2)(ii)	118
22.	Mentoring Program Standards	(D)(2)(iv)(a)	127
23.	Evaluating the System of Statewide Support	(D)(5)(ii)	158
24.	List of Persistently Lowest-Achieving Schools	(E)(2)(i)	170
25.	Tier I and Tier II Building List	(E)(2)(ii)	171
26.	Missouri Constitution Article IX Section 3(b)	(F)(1)(i)	178
27.	Charter School Study	(F)(2)(ii)	184
28.	Charter School Model Documents	(F)(2)(ii)	184
29.	School Funding Calculations	(F)(2)(ii)	190
30.	Online Readiness	Budget Narrative	238

Missouri Early Learning Standards for Literacy

Content Component	Process Standards
I. Symbolic Development	1. Represents feelings and ideas in a variety of ways.
II. Speaking/Expressive Language	1. Uses language to communicate. 2. Uses expanded vocabulary.
III. Listening/Receptive Language	1. Listens for different purposes.
IV. Reading	1. Applies early reading skills. 2. Uses concepts of print. 3. Attends to sounds in language. (Phonological Awareness)
V. Writing	1. Uses writing as a means of expression/communication.

All children actively seek to comprehend the world in which they live.

Organization

The standards cover the broad scope of early literacy development and are organized by:

I. **Content Component** — the specific content area to be addressed, such as written language or knowledge of print and books;
II. **Process Standards** — identifiable competencies or capabilities in the process of literacy development, such as attending to sounds in language or applying early reading skills;
III. **Indicators** — observable milestones in the development of competencies, such as using language to represent ideas and feelings or listening responsively to books and stories;
IV. **Examples** — specific behaviors children may exhibit in their literacy development.

This structure provides us with an accessible way to see how the standards fit into our curriculum and teaching practice.

Introduction for Teachers

This guide, along with the Parents' Guide, is a companion piece to the *Missouri Early Learning Standards for Literacy*. It is intended for all adults who work with preschool age children and their families- teachers, caregivers, and/or parent educators. The guide is designed to provide an explanation of the standards and contains practical suggestions for creating engaging, developmentally appropriate learning communities where each child's literacy development is fostered.

Why is it important to have standards for early literacy? In Missouri, the Outstanding Schools Act of 1993 called together a group of master teachers, parents, and policy makers from around the state. The Show-Me Standards were the result of that group's work. Those standards are designed for students in kindergarten through grade 12 and serve to ensure that graduates of Missouri's public schools have the knowledge, skills, and competencies to lead productive, fulfilling, and successful lives. However, we all realize that the foundations for learning are laid well before a child enters kindergarten! In fact, research tells us that the pre-kindergarten years provide crucial opportunities for educators and caregivers to influence children's growth and development. If our goal is that every child enter kindergarten ready to learn and succeed, pre-kindergarten educational standards can provide us with shared understandings about the competencies critical for this to occur. In addition, early learning standards provide a direct link to the Show-Me Standards, so we know that we are preparing children for the high expectations they will encounter as they progress through school.

To this end, the *Missouri Early Learning Standards for Literacy* describe what most children should know and be able to do in the area of literacy by the time they enter kindergarten. They represent a shared set of expectations for preschool children, expectations developed by drawing upon current research about how young children learn. It is important to keep in mind, however, that children learn and develop in their own unique ways. While research demonstrates that these standards are appropriate for most children who are about to enter kindergarten, our responsibility as educators is to assess where each child is on the literacy continuum and build on what that child knows and can do.

Ongoing, observational assessment is thus a key element in supporting children's early literacy development. This guide will illustrate some indicators that teachers can reliably assess to show each child's progress over time. This data can be used to plan meaningful, engaging learning experiences that both promote literacy development and a love for reading and writing. In addition, you will find information about creating literacy-rich environments and partnering with parents and families to promote literacy and an enthusiasm for learning. A list of helpful resources is included as well.

(b)(6)

I. Symbolic Development

This standard refers to the child's ability to interpret, create and use symbols to represent something (an idea, a feeling, or an object) that is not present. The capacity for symbolic development is integral to literacy, although some adults mistakenly assume that symbolic activities are less critical to a child's development than language activities. It is through symbolic expression that the young child's imagination and abilities to communicate ideas and feelings flourish. It provides the child with the means for representing what they know about their world, as well as for thinking about imaginary and real-life situations.

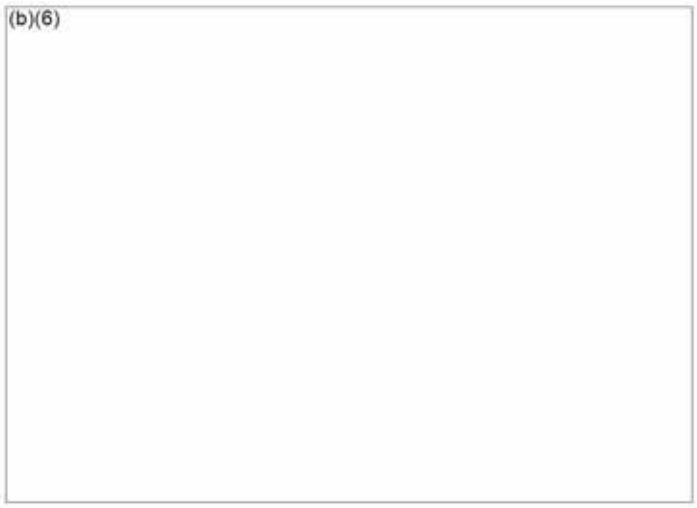
1. Represents feelings and ideas in a variety of ways.

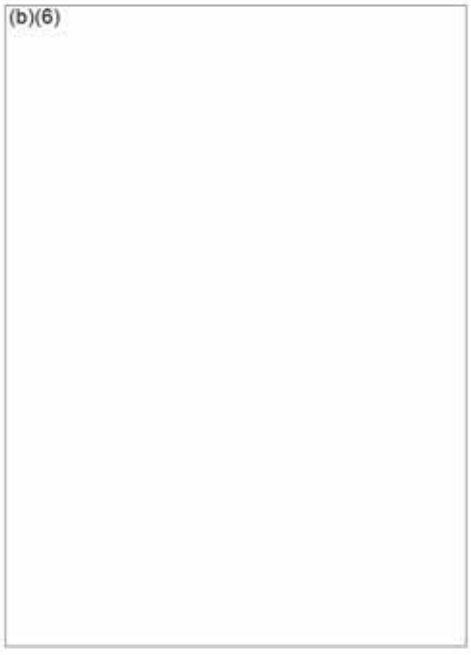
Indicators	**Examples** **The child ...**
a. Represents feelings and ideas through pretend play.	• pretends to be a firefighter, doctor, mother, father, etc. • cooperates during play with others (e.g., children work together to build a castle with blocks). • creates play themes with others (e.g., "I'll be the mommy, you are the baby, and we'll go shopping). • attaches emotion to pretend play.
b. Represents feelings and ideas through movement.	• pretends to move, run, jump, crawl, hop, skate, etc., like an elephant, airplane, dancer, bird, etc. • expresses his/her feelings through movement (e.g., jumps with excitement, stomping feet in frustration).
c. Represents feelings and ideas through music.	• responds to different kinds of music (e.g., marches to music, relaxes to soft music). • joins in singing favorite songs, saying rhymes, finger plays, etc. • creates music and songs (e.g., changes words to familiar tune, plays pretend instruments).
d. Represents feelings and ideas through art and construction.	• draws or paints pictures and tells others about his/her pictures. • builds with blocks, Lego's, tinker toys, etc., and says, "I made a castle." • responds to others when asked to tell about a construction or a drawing.

interpret, create and use symbols to
represent something that is not present

Teacher strategies to promote children's symbolic development include:

- allowing enough time and space for make believe play.
- providing prop boxes and/or props in general for pretend play.
- developing theme units with supporting materials.
- acting out familiar stories as a group and/or providing props so that children can "retell" favorite stories on their own.
- providing a well-equipped play area.
- providing puppets, realistic animal and people figures in the block area.
- having a supply of recyclables accessible to children so they can create their own props.
- allowing enough time and space for movement activities.
- incorporating movement activities into the daily schedule.
- presenting invitations, or posing open-ended problems, instead of giving directions to act or move in a certain way.
- incorporating music/singing together into the daily schedule.
- providing a variety of instruments for children to play.
- providing materials for children to create their own instruments.
- playing rhythmic pattern games (e.g., clapping games).
- equipping listening center with a variety of tapes and headphones.
- using music and/or songs to signal transitions.
- allowing enough time and space for children to build/construct with materials, as well as for art exploration.
- allowing children to explore and create with art materials, rather than engage in craft projects designed to produce identical products.
- providing a variety of paper, poster board, art supplies, paints, markers, as well as a supply of clay, etc., organized so they are freely accessible to children.
- providing a variety of blocks, rollers, Lego's, etc., organized so that they are freely accessible to children.





II. Speaking/Expressive Language

These standards refer to the child's ability to express him/herself using language. Children learn how language works by actively and purposefully interacting with other people and the environment. They operate under the assumption that language is orderly and they try out various alternatives in an attempt to discover that order. In the process of teaching themselves how spoken language works, children construct their own rules, based on their understanding of adult speech. For example, a child might say "foots" instead of "feet" as they experiment with spoken language. As they have more opportunities to express themselves, they increase their understanding of how language works by building on what they already know and revising their theories of how language operates.

1. Uses language to communicate.

Indicators	**Examples** **The child ...**
a. Communicates in home language and is understood by others.	• uses English, Spanish, sign, or other native language for a variety of purposes. • communicates personal needs, preferences, and feelings.
b. Initiates and responds appropriately in conversation and discussions with adults and children.	• responds to how others feel and expresses concern. • shares information and gives directions, especially during play. • engages in turn-taking conversations. • asks why, what, when, where questions.

2. Uses expanded vocabulary.

Indicators	**Examples** **The child ...**
a. Uses language to pretend or create.	• pretends with words or actions to be a story/television character. • makes up rhymes of songs. • tells real or make believe stories. • tells and laughs at exaggerated stories.
b. Uses complete sentences of varying length.	• uses descriptive language (e.g., color words, sizes, shapes). • acquires new vocabulary. • asks and answers questions for information. • uses new vocabulary during play.

Teacher strategies to promote children's speaking/expressive language include:

- providing time for student-initiated talk on matters important to them.
- encouraging peer interactions throughout the day.
- introducing topics at circle time that encourage children's verbal participation.
- holding class meetings to resolve conflicts, make grocery lists, vote, etc.
- modeling how to ask and answer questions.
- singing "open-ended" songs that children can supply words for.
- reading and discussing stories with a small (2-3) group of children.
- providing opportunities/materials to introduce new words in a way that's meaningful for children (e.g., "Yes, that is a bug and it's called a spider.").

III. Listening/Receptive Language

This standard refers to the child's ability to give attention to and understand language. Speaking and listening are interactive processes and as children build their capacity to listen attentively, they increase their understanding of how people communicate with each other.

1. Listens for different purposes.

Indicators	Examples The child ...
a. Follows simple directions.	• follows 2-step directions, "Put away your crayons and go to the door." • follows 3-step directions, "Pick up your toys, brush your teeth, and put on your green shirt."
b. Listens responsively to books and stories.	• responds to books and stories with facial and body gestures (smiling, laughing, etc.). • responds verbally to the story or text.
c. Listens to and engages in conversations with others.	• responds appropriately to the words of another in an exchange of ideas, comments, or questions.
d. Responds to questions.	• answers simple questions (e.g., "What would you do if you fell off your bike and hurt your knee?").

Teacher strategies to promote children's listening/receptive language include:

- reading aloud often
- providing opportunities for children to interact with peers throughout the day
- providing opportunities for asking and answering questions
- engaging children in one-on-one conversations

speaking and listening are interactive processes

IV. Reading

This standard refers to the child's increasing ability to recognize and understand print and books. Children notice that readers respond to signs and directions, consult recipes, pour over newspapers, or relax with novels. They have a great interest in being read to and in printed text. For example, children will ask, "what is that word?" or "what does that say?" They often memorize favorite stories and spend time "reading" to themselves, or picking out words that they know. They are constructing the understanding that print/books conveys meaning.

As children begin to learn how language works, they start to make the connection that there are specific sounds associated with the language they speak and the environment they live in. They explore sound patterns and rhymes, and begin to notice that inflections (changes in a speaker's pitch or loudness) can hold meaning. In the course of their explorations, they discover the letter/sound connection as well — a crucial building block for literacy.

1. Applies early reading skills.

Indicators	**Examples** **The child ...**
a. Shows interest in reading and books.	• recognizes and frequently requests favorite book(s). • chooses to "read" or look at books. • responds to and talks about the pictures in books.
b. Exhibits book-handling skills.	• holds a book upright and turns pages in the book, front to back. • begins to scan pages from top to bottom and left to right. • knows a book is for "reading."
c. Pretends to read easy or predictable books or tries to read along during his/her favorite part of story.	• joins in with predictable phrases (e.g., "Run, run, as fast as you can. You can't catch me, I'm the Gingerbread Man"). • uses pictures and/or context to construct meaning. • may "read" beginning books, wordless books, familiar rhyming books, and/or predictable books by recreating the story from memory and/or picture cues.
d. Comprehends and responds to text.	• identifies known objects in illustrations. • talks about or expresses emotion in reaction to text. • makes predictions and may use the pictures as a guide (e.g., "I bet he is going to fall."). • uses the voice of a character (e.g., "Reads" text like "I'm the Mean Old Troll.").
e. Develops a sense of story.	• tells a story from pictures. • recognizes variations in retelling of stories. • predicts outcomes of stories. • tells stories with beginnings, middles, and ends. • dictates stories for others to write down. • tells stories based on personal experiences, imagination, dreams, and/or stories from books. • recalls information about settings, characters, events in a story.

IV. Reading

2. Uses concepts of print.

Indicators	Examples The child ...
a. Reads environmental print and symbols.	• recognizes fast food and store signs (e.g., McDonald's, K-Mart). • recognizes product logos (e.g., Cheerios, Barbie, Lego's). • recognizes environmental signs (e.g., STOP, MEN, WOMEN, EXIT).
b. Identifies some alphabet letters.	• identifies some letters in his/her name. • may identify letters in other personally significant words (e.g., "c" for cookie, "d" for dog, "m" for mom).
c. Recognizes that print represents spoken words.	• recognizes first name in print. • knows that the label "chair" on a chair means chair. • looks at words on the page of a book and "reads" the story. • recognizes that a letter is different from a word.

Reads environmental print and symbols.

IV. Reading

3. Attends to sounds in language. (Phonological Awareness)

Indicators	Examples The child ...
a. Repeats rhymes, simple songs, poems and finger plays.	• says or sings nursery rhymes such as Humpty Dumpty. • sings simple songs such as Twinkle Twinkle Little Star. • says poems and finger plays such as Itsy Bitsy Spider.
b. Participates in word games.	• claps along with syllables of words (e.g., claps names and rhythms). • creates words by substituting one sound for another (e.g., "I like to eat…Apples and Bananas, Opples and Bononos" "Willoby, Wallaby, Woo"). • participates in rhyming games (e.g., going on a bear hunt and find something that rhymes with sock).
c. Discriminates some sounds in words.	• attends to books that focus on specific sounds (e.g., JAMBERRY, FOX IN SOCKS, WHO'S IN THE SHED). • perceives differences between similar sounding words (e.g., coat and goat, three and free). • experiments with language sounds (like sssssssssnake, hisssssssss, buzzzzzzzzzz). • attends to some beginning sounds in familiar words (i.e., "That word begins like my name, David, dog."). • plays with repetitive sounds (e.g., snakes slither, John Jacob Jingle Himer Schmitt).

Teacher strategies to help children apply early reading skills include:

- reading aloud daily.
- using name cards in various ways (for labeling cubbies, on the helper schedule, taking attendance, etc.).
- using predictable and big books regularly and repetitively.
- encouraging children to respond to stories by asking open-ended questions and/or engaging them in conversations about the story.
- keeping copies of predictable favorites in the class library all year long.
- engaging the children in choral reading.
- reading the same book multiple times, using a variety of techniques.
- pointing to words, left to right, when reading; modeling how to turn pages.
- reading a story in a small group, letting each child follow in his/her own copy of the book.
- having a quiet "reading" time built in to the daily schedule.
- using labels and encouraging awareness of labeling and environmental print.
- providing library time and a means for checking out books to read and/or take home.
- providing a variety of accessible printed materials to explore and pretend with.
- organizing a reading center/area with an adequate supply of books (7-10 per child), pillows, etc., where children can choose books to read quietly and comfortably.
- writing class books together to keep in the class library and which can be checked out to take home and share with families.
- playing word games such as The Name Game Song.
- involving children in learning lots of songs, fingerplays, and nursery rhymes.
- singing call-and-response songs (e.g., as found on Thomas Moore or Ella Jenkins recordings).
- learning poems to say/chant aloud.
- playing sound/listening games such as "Find the Hidden Sound" and identify the sound.

V. Writing

This standard refers to the child's increasing ability to understand that graphic symbols (i.e., print, handwriting) are meaningful and can be used to communicate with others. Children notice that writers jot down notes, compose letters, make lists, take and send messages. They are very interested in all kinds of writing tools. Children begin to explore written language by writing various curves, angles, or scribbles. As they learn more about how language works, children start to understand that our writing system is based on letters representing speech sounds.

1. Uses writing as a means of expression/communication.

Indicators	Examples The child ...
a. Experiments with writing tools and materials.	• shows beginning control of writing, drawing, and art tools (e.g., uses a paint brush, pencil or marker with a functional grasp, uses dry-erase markers or chalk on board, uses tools for play-dough).
b. Uses scribbles, shapes, pictures and letters to write.	• scribbles letter-like symbols and some letters in writing. • writes something and then asks someone else to read it. • attempts to write for a variety of purposes (e.g., lists, messages, stories). • writes as part of play (e.g., the child says, "This is my grocery list.").
c. Tells others about intended meaning of drawings and writings.	• uses writing to communicate ideas and information. • says to a friend, during pretend play, "I am giving you a ticket, you are going too fast." • uses symbols or drawings to express thoughts, feelings, and ideas. Child may draw or "write" about an experience.
d. Uses a variety of resources to facilitate writing.	• may ask others for help in writing. • attempts to copy letters or words from the environment (e.g., cereal box, names, public signs, logos, books, etc.).

Teacher strategies to promote children's writing include:

- supplying a variety of freely accessible supplies for writing (markers, pencils, chalk, many kinds of paper, labels, envelopes, notepads, dry marker boards, magnetic letters, etc.).
- providing easels for painting, drawing, writing.
- organizing a writing center with many writing tools.
- providing journals and time for writing.
- making many opportunities for children to write for meaningful purposes, such as sign-up sheets for turn-taking, thank you letters, signs, lists.
- writing daily news.
- composing classroom books together.
- supplying all centers/areas with writing tools and/or props such as blank receipts, invoices, etc.
- asking children to describe their drawings and writing the words they dictate. Read the words back.

Experiments with writing tools and materials.

Creating a Learning Environment to Support Literacy

One of the keys to building a literacy-rich environment is to have an adequate supply of books and writing materials. A good guideline is to have at least 7-10 books per child. There should be a variety of genres represented: stories, picture books, predictable books, wordless books, nonfiction, poetry…big books are very important as well. In addition to setting up a reading center, or book corner, a listening station, and a writing center, distributing appropriate books and writing materials in all areas of the room encourages children to incorporate literacy activities throughout their day. Books and materials should be accessible to the children, arranged on low shelves or in baskets. Comfy spots for reading and spaces for writing, painting, and drawing all contribute to making an environment where children can learn to love reading and writing!

making an environment where children can learn to love reading and writing!

Involving Parents/Families

Parents/families are important partners in promoting young children's early literacy development. Encouraging parents/family members to read daily to their children, and to converse about what they read, is an obvious place to start. Inviting families to create books of environmental print together, or to take their child to a library frequently, are also good ways to show parents how to support literacy. There are many resources for educators interested in involving parents in literacy development, some of which are included below. The Parents As Teachers program is also an invaluable resource; contact your school district for more information about this exemplary program.

Resources

Books

Bishop, A, Yopp, R.H., & Yopp, H.K. (2000). *Ready for Reading: A handbook for parents of preschoolers.* Boston: Allyn and Bacon.

Bredekamp, S., & Rosegrant, T. (Eds.). (1995). *Reaching potentials: Vol. 2. Transforming early childhood curriculum and assessment.* Washington, DC: National Association for the Education of Young Children.

Burns, M.S., & Snow, C.E. (1999). *Starting out right: A guide to promoting children's reading success.* Washington, DC: National Academy Press.

Campbell, R (Ed.). (1998). *Facilitating preschool literacy.* Newark, DE: International Reading Association.

Engel, B. S. (1995). *Considering children's art: Why and how to value their works.* Washington, DC: National Association for the Education of Young Children.

Hirsch, E. S. (1995). *The block book* (3rd ed). Washington, DC: National Association for the Education of Young Children.

Leonard, A. M. (1997). *I spy something: A practical guide to classroom observations of young children.* Little Rock, AR: Southern Early Childhood Association.

MacDonald, S. (1997). *The portfolio and its use: A road map for assessment.* Little Rock, AR: Southern Early Childhood Association.

MacDonald, D. T. (1979). *Music in our lives: The early years.* Washington, DC: National Association for the Education of Young Children.

Moomaw, S. (1997). *More than singing: Discovering music in preschool and kindergarten.* St. Paul, MN: Redleaf Press.

Moomaw, S., & Hieronymus, B. (1999). *More than painting: Exploring the wonders of art for preschool and kindergarten.* St. Paul, MN: Redleaf Press.

Neuman, S.B., Copple, C., & Bredekamp, S. (2000). *Learning to read and write: Developmentally appropriate practices for young children.* Washington, DC: National Association for the Education of Young Children.

Owocki, G. (1999). *Literacy through play.* Portsmouth, NH: Heinemann.

Owocki, G.(2001). *Make way for Literacy!: Teaching the way young children learn.* Washington, DC: National Association for the Education of Young Children.

Paley, V. G. (1998). *The girl with the brown crayon.* Boston, MA: Harvard Press.

Schickendanz, J. A. (1999). *Much more than the ABCs: The early stages of reading and writing.* Washington, DC: National Association for the Education of Young Children.

Skeen, P., Garner, A. P., & Cartwright, S. (1984). *Woodworking for young children.* Washington, DC: National Association for the Education of Young Children.

Strickland, D. S., & Morrow, L. M. (Eds.). (1989). *Emerging literacy: Young children learn to read and write.* Newark, DE: International Reading Association.

Sullivan, M. (1982). *Feeling strong, feeling free: Movement exploration for young children.* Washington, DC: National Association for the Education of Young Children.

Trelease, J. (2001). *The read aloud handbook.* (5th Ed.) NY: Penguin.

Web Sites

Association for Childhood Education International: http://www.udel.edu/bateman/acei/
Center for the Improvement of Early Reading Achievement (CIERA): http://www.ciera.org
Children's Defense Fund: http://www.childrensdefense.org/
Connections Newsletters: http://fcs.tamv.edu/families/child_care/connections_newsletters.php
Early Childhood Education on Line: http://www.umaine.edu/eceol/
Early Childhood Educators' and Family Web Corner: http://users.stargate.net/~cokids/
Early Childhood News: http://www.earlychildhood.com
Everything for Early Childhood Education Preschool-Grade 2: http://www.edupuppy.com/
Helping Your Child Become a Reader: http://www.ed.gov/pubs/parents/Reader/index.html
Licensing of Child Care Facilities in Missouri: http://www.health.state.mo.us/
National Association for Family Child Care: http://www.nafcc.org
National Child Care Information Center: http://ericps.crc.uiuc.edu/nccic/cctopics.html
National Literacy Center for Family Literacy Publications: http://www.famlit.org
"On-Lion" for Kids: http://www2.nypl.org/home/branch/kids/
Poems for children: http://www.firsteps.com/Lessons/shortsweet20.htm
Songs for children: http://www.kididdles.com/mouseum/index.html

Magazines and Newsletters

The Buzz: Cool Ideas for Child Care Providers (4 issues per year)
Center for Innovations in Special Education
152 Parkade Plaza, 601 Business Loop 70 W
Columbia, MO 65211-8020
(800) 976-2473

Early Childhood News (6 issues per year)
P. O. Box 608
Vandalia, OH 54377
(800) 607-4410

Scholastic Early Childhood Today (8 issues per year)
P.O. Box 54814
Boulder, CO 80322-4814
(800) 544-2917

Young Children (6 issues per year)
National Association for the Education of Young Children (NAEYC)
1509 16th Street, NW
Washington, DC 20036-2460
(800) 424-2460

Brochures

NAEYC Brochures for Parents:
[For ordering information, call (800) 424-2460.]
Play is Fundamental. (McCracken, J. B.) #576
Raising a Reader, Raising a Writer: How Parents Can Help #530
Books to Grow On: African American Literature for Young Children #568

International Reading Association Brochures for Parents:
[For ordering information, call (800) 336-READ.]
Beginning Literacy and Your Child # 1028-553
Get Ready to Read # 1017-836
Make the Reading-Writing Connection #1038-836

Missouri Early Learning Standards for Mathematics

Content Component	Process Standards
I. Number and Operations	1. Uses number to show quantity. 2. Uses language to represent number of objects. 3. Solves problems using number. 4. Uses numerical representation.
II. Geometry and Spatial Sense	1. Investigates positions and locations. 2. Explores shapes in the environment.
III. Patterns and Relationships (Algebra)	1. Recognizes relationships in the environment. 2. Uses patterns in the environment.
IV. Measurement	1. Makes comparisons. 2. Uses measurement.
V. Exploring Data (Probability)	1. Collects, organizes and displays information. (Charting and Graphing)

children flourish in a learning community where they can directly act on objects and interact with people

Organization

The standards cover the broad scope of child development and are organized by:

I. **Content Component** — the specific content area to be addressed (e.g., number and operations or measurement).

II. **Process Standards** — identifiable competencies or capabilities in the process of mathematical development, such as solving problems using number or using numerical representation.

III. **Indicators** — observable milestones in the development of competencies, such as writing some numerals or taking objects apart and putting them together again.

IV. **Examples** — specific behaviors children may exhibit in their mathematical development.

This structure provides us with an accessible way to see how the standards fit into our curriculum and teaching practices.

Introduction for Teachers

This guide, along with the *Parent Handbook*, is a companion to the Missouri Early Learning Standards for Mathematics. It is intended for all adults who work with preschool-age children and their families — teachers, caregivers and/or parent educators. It explains the standards and contains practical suggestions for creating engaging, developmentally appropriate learning communities to foster each child's mathematical thinking.

Why is it important to have mathematics standards for early learners? In Missouri, the Outstanding Schools Act of 1993 called together a group of master teachers, parents and policy-makers from around the state. The result of that group's work are the Show-Me Standards, which are designed for students in kindergarten through grade 12 and serve to ensure that graduates of Missouri's public schools have the knowledge, skills and competencies to lead productive, fulfilling and successful lives. However, we all realize the foundations for learning are laid well before a child enters kindergarten! Research tells us the early years provide crucial opportunities for educators and caregivers to influence children's growth and development. If our goal is that every child enter kindergarten ready to learn and succeed, pre-kindergarten educational standards can provide us with shared understandings about the competencies critical for this to occur. In addition, pre-kindergarten standards provide a direct link to the Show-Me Standards, so we know that we are preparing children for the high expectations they will encounter as they progress through school.

These standards describe what most children should know and be able to do in the area of mathematics by the time they enter kindergarten. They represent a shared set of expectations for preschool children, expectations developed by drawing upon current research about how young children learn. It is important to keep in mind, however, that children learn and develop in their own unique ways. While research demonstrates that these standards are appropriate for most children who are about to enter kindergarten, our responsibility as educators is to assess where each child is on the continuum of mathematical thinking and build on what that child knows and can do.

Ongoing observational assessment is a key element in supporting children's early mathematical development. This guide will illustrate some indicators that teachers can reliably assess to show each child's progress over time. This data can be used to plan meaningful, engaging learning experiences that promote both mathematical development and a love for solving problems. In addition, you will find information about creating mathematically rich environments and partnering with parents and families to promote mathematical thinking and an enthusiasm for learning. Lists defining the mathematical terms referred to in the standards and outlining helpful resources are also included.

(b)(6)

I. Number and Operations

This standard refers to the child's increasing understanding that numbers represent quantities. It is an important component of number sense — the ability to understand how numbers are used and how they are represented as well as relationships among numbers.

Mathematical Concepts Defined

Content component: Number and Operations

Count with understanding (cardinality): attach a number name to a series of objects; to understand that the number spoken when tagging or touching the last object also identifies the total number in the group
Estimate: making an educated guess as to the amount or size of something
Everyday fractions: numbers that represent parts of whole objects in the child's environment (e.g., half a sandwich)
Number and operations: understanding of numbers, ways of representing numbers, relationships among numbers and number systems
Number: a unit belonging to a mathematical system used for counting, measuring, ordering and labeling; the meaning of a number word or numeral
Number sense: the ability to understand numbers, ways of representing numbers and relationships among numbers (Number sense is much more than counting; it involves the ability to think and work with numbers easily and to understand their uses (counting, measuring, ordering and labeling) and relationships.)
Numerals: conventional symbols that represent numbers (e.g., "1" is the numeral for "one")
One-to-one correspondence: matching objects from one set to objects of an equal set.
Operations on numbers: basic number combinations and strategies for computing such as addition and subtraction
Ordinal numbers: numbers that indicate the position of an object in a sequence (i.e., first, second, third)
Quantity: how many units are in a set (i.e., an amount or the result of counting)
Rote count: recite the names of the numerals in order or sequence (e.g., singing a counting song)
Tagging: linking a single number name with one object, and only one, at a time

1. Uses number to show quantity.

Indicators	Examples The child ...
a. Shows interest in counting and quantity.	• uses fingers to indicate the number (e.g., holds up five fingers to show age). • repeats counting rhymes and singing games with numbers. • counts familiar objects (e.g., family members, friends, toys) although not always accurately. • asks how many.
b. Develops an increasing ability to rote count in sequence.	• counts one to 10 or beyond.
c. Counts objects with understanding.	• counts five items (e.g., blocks, crayons, cars) accurately. • hands one to five objects upon request (e.g., hands you three potatoes when you say, "Joe, hand me three potatoes.")

Teacher strategies to promote use of number to show quantity include:

- encouraging children to experiment with counting in ways that are meaningful to them.
- engaging children in singing counting songs.
- reading big books that feature counting or numbers (e.g., Ten Black Dots).
- modeling counting of objects or people in meaningful contexts (e.g., to determine how many children are at a table).
- providing opportunities for counting objects.
- modeling that we use one counting word/number for each object.
- asking "how many" questions.
- posting a number chart at children's eye level and modeling how to use it.
- playing counting games.

I. Number and Operations

This standard reflects the child's growing knowledge and use of vocabulary associated with number and quantity. It provides a building block for mathematical understanding and communicating mathematical ideas. It is important to remember that children can make mathematical observations and connections throughout the day and in all areas of the curriculum.

2. Uses language to represent number of objects.

Indicators	**Examples** **The child ...**
a. Uses language to compare number (e.g., more/less, greater/fewer, equal to).	• looks at his own and another child's blocks and determines who has more blocks. • compares raisins with a friend's and decides they have the same amount. • asks, "How many more do you have?"
b. Combines and names how many.	• puts the red, yellow and blue crayons together and tells how many total crayons there are. • recognizes that three cars and two trucks is a total of five vehicles.
c. Separates and names how many.	• participates in finger plays, songs or stories such as *Five Little Monkeys* or *Five Little Ducks* that use backward counting. • plays with a plastic ball and bowling pins and can tell how many fell down and how many are left standing.
d. Explores everyday fractions.	• says, "I have a whole orange," or "I have half an apple, (although not always accurately).

Teacher strategies that promote the use of mathematical language include:

- choosing books involving counting and math concepts during shared reading (see the list in the Resources section for suggested titles).
- engaging children in identifying environmental print with numbers and making environmental print "math" books.
- giving children materials to make collections with and conversing with them about how they sort or classify objects and how many there are.
- engaging children in finger plays, songs and stories that involve counting (forward and backward).
- providing opportunities for counting objects and asking about quantities.
- modeling vocabulary for making comparisons and indicating quantity.
- helping children make mathematical connections at snack time (e.g., asking, "Are there enough crackers for everyone? How many do we need?").

(b)(6)

I. Number and Operations

This standard refers to a child's ability to identify and solve personally meaningful problems involving number. As children begin to work with numbers to solve problems that are of interest to them, they deepen their understanding of what numbers represent as well as of the relationships among numbers.

3. Solves problems using number.

Indicators	Examples The child ...
a. Names how many there are in a group (up to five objects).	• recognizes that there are two or three crayons in a box. • rolls a number cube and tells how many dots are on it without counting. • counts five blocks and says, "There are five blocks."
b. Uses one-to-one correspondence when counting objects.	• gets a carton of milk for each child at the table. • puts a cup with each napkin when setting the table. • when playing, matches one car to each block or gives one plate to each doll.
c. Uses one-to-one correspondence to compare the size of a group of objects.	• compares two rows of blocks, two in one line and four in another, and can tell which one has more or less. • matches number of cars to a friend's and says, "I have more."
d. Estimates, then counts to verify the number of objects.	• while playing in the sand guesses how many cups it would take to fill a bucket and counts the cups of sand put in the bucket. • guesses how many pennies are on the table, then counts the pennies.

Teacher strategies that promote problem solving with numbers include:

- taking advantage of natural contexts during the day (e.g., at snack time or when taking attendance) to encourage problem solving with numbers.
- showing children a glimpse of a small group of items (i.e., 1 to 3) and asking them how many there are.
- supplying the math center with a variety of math games, including teacher-made games, for children to explore.
- engaging children in all kinds of group games (e.g., aiming games, hiding games, guessing games, board games).
- encouraging children to make up board games or make their own rules for games.
- providing opportunities for children to estimate amounts and test their predictions.
- supporting children in making mathematical observations and connections in the block area and other centers.
- having children vote in appropriate contexts (e.g., in determining the name of the class pet).
- describing real-life situations involving numbers and a problem for children to solve (e.g., saying, "We have 10 cartons of milk for snack but only six straws. How many more straws do we need?).

supply the math center
with a variety of math games
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I. Number and Operations

This standard refers to the child's ability to identify and distinguish numerals as well as develop an understanding of ordinal numbers (i.e., numbers that indicate where an object is positioned in a sequence). This skill is another building block of number sense and provides a means for children to communicate mathematical ideas.

4. Uses numerical representation.

Indicators	Examples The child ...
a. Uses drawings to represent number.	• draws pictures showing size (e.g., short/tall) and quantity of family members. • creates a way to keep score during a game. • draws a picture to indicate number of objects or snacks.
b. Identifies numerals in everyday situations.	• selects numerals on the telephone, calculator or computer. • finds and names numerals in books or on signs.
c. Uses ordinal numbers (i.e., first, second, last).	• can identify position in a line of children (e.g., who is first, second, last). • can put three objects in a line and tell you which object is first, middle or last. • tells the position of objects (i.e., first, second, last).
d. Writes some numerals.	• draws numerals in sand. • creates numerals with rolled clay or pipe cleaners. • tries to write how old he or she is. • tries to copy a telephone number.
e. Matches numeral with quantity.	• when playing a game with a spinner or number cube, correctly counts the spaces on the game board that match the numeral or symbol. • uses magnetic or flannel numerals to show how many marbles.

Teacher strategies for promoting use of numerical representation include:

- creating a classroom environment that contains many examples of how numbers are found and used in daily living (e.g., having phone books, receipts, etc., in the writing center; providing a calculator or adding machine in the math center).
- providing developmentally appropriate math software on the computer and having it accessible to children.
- encouraging children to represent numbers in many different media.
- having the children collect environmental print involving number.
- providing opportunities for children for tallying.
- providing resources and opportunities for children to experiment with writing numbers in the writing and art centers.
- providing time and space for children to play a variety of math games.
- posting number lines or charts at children's eye level for their reference.
- modeling the vocabulary of ordinal numbers.
- providing many opportunities for children to represent quantities with objects and exchange their ideas with their peers.

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II. Geometry and Spatial Sense

This standard concerns the child's developing understanding of the relationships between and among objects in the physical world as well as of the child's own spatial sense: the consciousness of where he/she is in relationship to other people and objects.

Mathematical Concepts Defined

Content component: Geometry and Spatial Sense

Attribute: a characteristic or feature of an object such as color, size, shape, weight and number of sides
Geometry: the area of mathematics that involves shape, size, position, direction and movement and describes and classifies the physical world we live in
Location: where an object is in space
Orientation: the position or arrangement of an object
Position: the place where an object or person is in relation to others
Spatial sense: children's awareness of themselves in relation to the people and objects around them; it includes knowing boundaries, arrangements and positions
Shape: the form of an object
- **Three-dimensional:** objects that have length, width and depth; solid figures such as cubes, spheres and cylinders
- **Two-dimensional:** objects that have length and width but not depth; shapes such as squares, triangles and circles

1. Investigates positions and locations.

Indicators	Examples The child ...
a. Takes objects apart and puts them together.	• builds with interlocking blocks. • puts lids on containers. • completes simple puzzles.
b. Uses actions and words to indicate position and location.	• moves self to show positions during play (e.g., under a table, in the tent, between friends). • uses objects to show position (e.g., puts the bears on/off/on top of/above/below/beside the box). • talks about objects that are on/off/under/in front of/behind/inside/outside/next to/ between/etc. • says when reading *The Three Billy Goats Gruff*, "The big billy goat is on the bridge, and the troll is under the bridge."
c. Uses actions and words to indicate movement and orientation.	• moves self to show positions (e.g., up, down, forward, backward, around, through, to, from, sideways, across, back and forth, in a straight or curved path). • explains where objects in a room have been moved. • describes how to get to a location using landmarks. • follows a path or moves through an obstacle course. • draws paths or beginnings of a map to show location during play.

Teacher strategies to support children's investigation of positions and locations include:

- having a variety of simple puzzles accessible to children.
- providing simple machines or objects for children to explore that can be taken apart and put together again.
- supplying the classroom with a variety of games and manipulatives that involve interlocking parts (e.g., Don't Break the Ice, LEGOs, unifix cubes).
- providing an ample supply of blocks, in all shapes and sizes, as well as adequate space and time for children to play with them and to discuss their actions and creations.
- modeling the vocabulary associated with position and location.
- reading aloud texts that involve changing positions and locations and engaging children in conversations related to these concepts.
- engaging children in movement and hiding games.
- supporting children's attempts to make pictures or models of objects.
- encouraging children to make maps of their environment or to trace paths that they can then represent in pictures with landmarks.

II. Geometry and Spatial Sense

This standard refers to children's growing awareness and identification of shapes in the environment as well as of dimensions. These abstract concepts become meaningful as children begin to explore shapes and observe their characteristics.

2. Explores shapes in the environment.

Indicators	Examples The child ...
a. Investigates and talks about the characteristics of shapes.	• says, "A circle is round." • discovers that some blocks stack and some blocks roll. • says that squares and triangles have corners and straight sides.
b. Creates and duplicates three-dimensional and two-dimensional shapes using a variety of materials	• uses blocks to make other shapes or objects. • makes shapes with play dough, pipe cleaners, string or yarn. • attempts to draw shapes and make pictures using shapes. • says, after cutting the sandwich, "Look, I made a triangle (or rectangle) with my sandwich."
c. Identifies and names some shapes.	• points to or names simple shapes (e.g., box shape, ball shape, circle, triangle, square). • says, "The pizza is round. My piece is triangle-shaped." • says, "The flag is the shape of a rectangle."
d. Indicates if shapes are alike or different using one or more characteristics	Three-dimensional shapes • says, "A bubble and an orange are both like balls (spheres)." • says, "A block (cube) is shaped like a box." • says, "This ball rolls, but this block does not." Two-dimensional shapes • says, "A triangle has three sides," or "A square has four sides." • says, "A circle is curved (round) like a hula hoop."

Teacher strategies to promote children's exploration of shapes in the environment include:

- providing many opportunities for block play and supporting children's conversations about their actions and experiments.
- asking open-ended questions about children's constructions (e.g., saying, "Why do you think this block keeps falling off the tower?").
- providing an art/construction area with a wide variety of materials for children to use to explore shapes.
- reading aloud and having available to children texts that illustrate or involve shapes; modeling the vocabulary associated with shapes.
- encouraging children to make observations and comparisons about shapes.
- providing opportunities for children to explore the attributes of shapes (e.g., in block play or the art area).

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III. Patterns and Relationships (Algebra)

Children have a natural curiosity to explore their world and in their explorations begin to make all kinds of relationships, which is a reflection of mathematical thinking. As this thinking develops, children begin to sort, classify and recognize or make patterns, the foundation of algebra.

Mathematical Concepts Defined

Content component: Patterns and Relationships (Algebra)

Extend: continue a pattern beyond what is shown

Match: to find two objects that have at least one characteristic in common

Order: arrange objects or numbers to show a progressive increase or decrease of a specific characteristic

Pattern: a sequence of colors, shapes, objects, sounds or movements that repeats again and again in a regular arrangement; patterns are a way for young students to recognize order and to organize their world

Patterns and relationships: the primary objective is for young children to be able to identify and analyze simple patterns, extend them and make predictions about them

Regroup: to place or assign objects in two or more groups using a different characteristic than was used the first time the objects were grouped

Relative difference: the specific characteristic that differs among a group of objects (e.g., size)

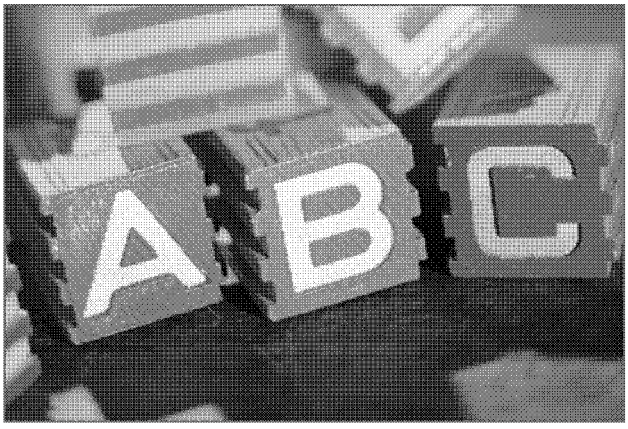
Sort: to place or assign objects in two or more groups on a basis of at least one characteristic

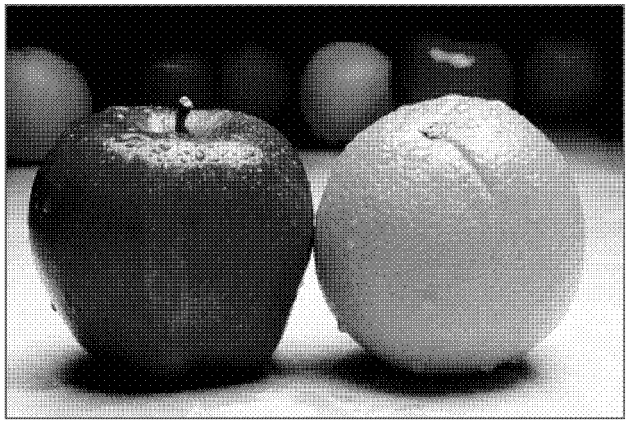
1. Recognizes relationships in the environment.

Indicators	Examples The child ...
a. Matches, sorts and regroups objects according to one or more characteristics.	• sorts plastic foods by size, color, shape or category. • matches objects that are alike (e.g., puts all of the two-hole buttons in one pile and four-hole buttons in another). • matches adult animals to their babies. • when playing "Go Fish," matches all the cards with threes.
b. Orders things according to relative differences.	• sorts stuffed animals from smallest to largest. • talks about who is tall, taller, tallest. • arranges a group of blocks from longest to shortest.

Teacher strategies for promoting children's recognition of relationships in the environment include:

- having an adequate supply of interesting materials accessible to children that they can sort and classify. These can be commercial products as well as recyclables and found objects, such as rocks, pine cones, etc.
- providing children many opportunities to sort and classify objects and to make small collections.
- engaging children in conversations about how they are sorting and classifying objects.
- playing games such as What's My Rule? and doing activities that involve children in determining how groups are classified and in identifying patterns.





III. Patterns and Relationships (Algebra)

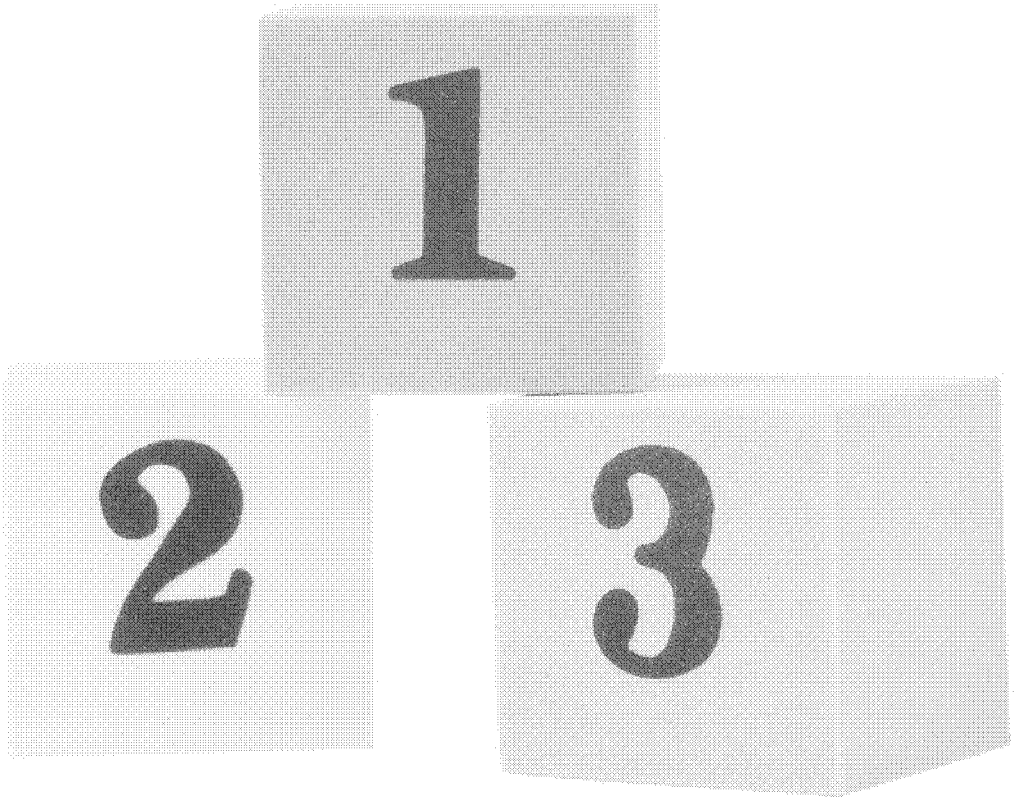
This standard reflects the child's growing ability to identify patterns. As the child begins to notice patterns in her surroundings, she also begins to explore making patterns in all kinds of ways, thus building algebraic thinking skills.

2. Uses patterns in the environment.

Indicators	Examples The child ...
a. Recognizes patterns.	• talks about color or pattern in clothing (e.g., says, "I have red and blue stripes on my shirt."). • identifies color patterns that repeat (e.g., red, blue, red, blue).
b. Duplicates and extends patterns.	• imitates a pattern of sounds and physical movement (e.g., clap, stomp, clap, stomp ...). • continues rhythmic patterns. • completes the patterns in a story (e.g., says, "Brown Bear, Brown Bear, what do you see?"). • repeats a pattern according to size, color, shape, while stringing beads. • predicts what comes next when an adult "reads" the pattern using simple vocabulary (e.g., car, car, boat, car, car, _____).
c. Creates patterns.	• creates simple patterns with beads or blocks according to color, size or shape. • creates simple patterns when drawing, coloring or painting.

Teacher strategies for promoting children's use of patterns include:

- modeling and discussing patterns.
- engaging children in making body patterns.
- providing materials for children to use for pattern making (these can be recyclables and found objects as well as commercial products such as pattern blocks).
- reading aloud books that involve patterns and having children complete the patterns.
- engaging children in songs, dances, marches and clapping games that involve rhythmic patterns.
- using a pocket chart for creating and displaying patterns with numbers, letters, colors, shapes, etc., and engaging the children in predicting what comes next.



IV. Measurement

This standard refers to the child's increasing ability to make comparisons and identify sequences. This ability relates to both concrete objects and to concepts, such as time, that are very abstract to the child.

Mathematical Concepts Defined

Content component: Measurement
Compare: think about same and different; describe the relationship between two or more objects
Measurable features: a characteristic or attribute of an object that can be quantified (represented with a number) such as size, shape, weight and number of sides
Measurement: young children's intuitive notions of comparing volume, area, length and other attributes that they will eventually learn to measure; involves decisions about how much or how long
Sequence: an arrangement of events or actions in a progressive order over time

1. Makes comparisons.

Indicators	Examples The child ...
a. Compares objects using measurable features.	• uses words to describe opposites (e.g., big/little, long/short, heavy/light). • chooses the largest snack. • says, "My bucket is heavier." • says, "This crayon is shorter."
b. Describes measurement.	• talks about an object being longer than another object. • uses a variety of language to describe measurement (e.g., shorter, taller, wider, bigger, heavier, lighter, holds more, hot, cold).
c. Orders three or more objects according to length or size differences.	• places ribbons in order by length. • puts cars in a row according to size. • puts pans (or measuring cups) inside each other.
d. Uses language associated with time in everyday situations.	• says, "Snack time comes after rest time." • says, "It's nighttime because it is dark." • says, "I eat breakfast in the morning." • says, "My birthday comes in the summer."
e. Anticipates, remembers and predicts a sequence of events.	• says, "I brush my teeth before I go to bed." • says, "We went to the library and then the grocery store." • recalls recent events and talks about them (e.g., says, "Yesterday we went to the zoo."). • describes the sequence of activities when going to the grocery store. • tells stories such as *The Three Little Pigs* with events in order. • points out when a familiar story is not told in the correct order.

Teacher strategies to encourage children in making comparisons include:

- modeling vocabulary for making comparisons (e.g., asking, "Is your train longer or shorter than Jennifer's?").
- engaging children in conversations where they are invited to make comparisons.
- reading aloud familiar stories and having children predict what comes next.
- engaging children in retelling familiar stories.
- providing opportunities for children to create "books" illustrating a sequence of events such as a field trip to the fire station.
- taking advantage of daily routines to introduce and model language associated with time.
- using a picture or pocket calendar for children to mark and track important events.

IV. Measurement

This standard refers to the child's increasing ability to engage in the process of measurement. As children explore their environment and recognize that things have measurable properties such as length, height and weight, they learn that these properties can be assessed and compared. As they do so, they begin to implement both standard (e.g., rulers, scales) and nonstandard (e.g., yarn, hands) units of measurement.

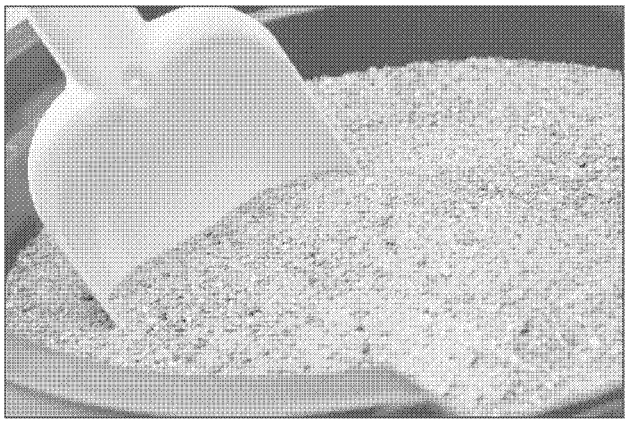
2. Uses measurement.

Indicators	Examples The child ...
a. Explores ways to measure.	• fills a container with solids or liquid (e.g., sand, ice cubes, water). • pours liquid from one container to another container. • sees how many blocks it takes to cover a sheet of paper.
b. Measures using objects.	• places a string next to an object to measure length. • uses the toy thermometer to measure the "patient's" temperature. • imitates using a ruler when helping dad.

Teacher strategies to promote children's use of measurement include:

- providing different kinds of containers, measuring spoons, cups, balance scales, etc., at the sand or water tables for the children to explore (a tub of beans can also be used).
- asking questions that lead children to make comparisons that can be measured as they engage in center-time activities.
- using classroom situations to engage children in measuring (e.g., asking, "Do you think there's enough room for the aquarium on that table? How can we find out?").
- modeling how measuring tools (i.e., tape measures, rulers, etc.) are used and making them available to children to use for their own purposes.
- encouraging children to estimate amounts, lengths, etc., and then supporting their efforts to take measurements to compare with their estimates.

the child imitates using a ruler when helping dad



V. Exploring Data (Probability)

This standard refers to children's ability to collect and organize information for their own purposes. As children begin to sort, classify and compare as part of their daily lives, they start to find means to organize information, or data, in order to use it in meaningful ways. As children's experience with collecting and organizing information increases, they also begin to explore ways to represent and interpret it (e.g., by participating in making charts or graphs).

Mathematical Concepts Defined

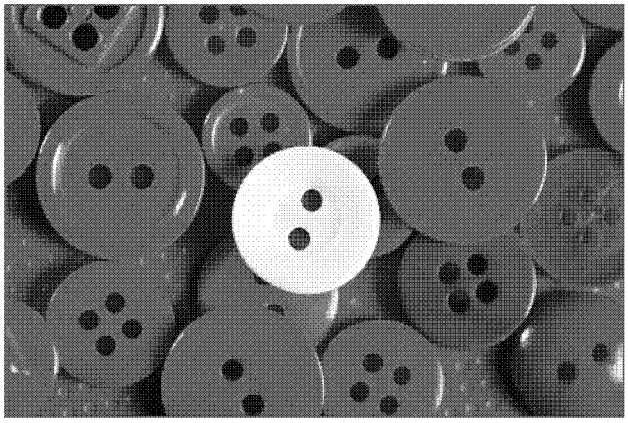
Content component: Exploring Data (Probability)
Classify: sort or form groups by similar characteristics
Data: information gathered to answer a question
Exploring data: informal experience with data by collecting, organizing, representing and comparing the information
Organize: to arrange information in order to see relationships, often using graphs and charts

1. Collects, organizes and displays information. (Charting and Graphing)

Indicators	Examples The child ...
a. Asks questions to gather information.	• asks, "What is your favorite color?" • asks, "What month is your birthday?" • asks, "What do you like to play outside?" • asks, "How many brothers and sisters do you have?"
b. Sorts and classifies objects into groups.	• puts objects together that have the same use (e.g., blocks, dishes, vehicles, clothes). • groups objects by their height, size, color or shape.
c. Explains how the grouping was done.	• tells how the buttons were sorted. "I put the red bottons together." • tells why he put the red cars in a group and the blue cars in a group.
d. Uses charts and graphs to evaluate information.	• says after looking at the chart, "two kids have birthdays in July." • says, "I have five trucks and four cars." • says after looking at the graph, "More buttons are red."

Teacher strategies to support children's explorations with data include:

- encouraging children to ask questions to gather information.
- providing children many opportunities to sort and classify objects, to make small collections and to discuss how they are organizing them.
- engaging children in conversations about how they are sorting and classifying objects.
- using children's interests to pose questions for them to investigate (e.g., saying, "At circle time, many children were talking about their pets. I wonder how many kinds of pets you all have? How can we find out?").
- encourage children to create charts and graphs from their investigations or classifications.



Creating a Mathematically Rich Environment

When thinking about enhancing the environment to support children's mathematical thinking, it is important to remember that mathematics can extend across all curricular areas. Just as literacy can be introduced into many different activity centers, so can mathematics. Including math books in the reading center and rulers and graph paper in the writing center, for example, can encourage young children's mathematical thinking as can number charts posted at children's eye level. Supplying the classroom with plentiful and varied materials for children to explore also supports children's mathematical development and invites hands-on investigations and problem solving. A math center that includes a wide variety of math games, including teacher-made games, manipulatives, pattern blocks, etc., and a well-supplied block area can provide children with wonderful opportunities to extend their mathematical thinking. Providing a supply of found materials (e.g., rocks, shells, pine cones) for children to assemble small collections with is also helpful. In fact, as teachers organize their environment to take advantage of mathematical potential, it becomes clear that math is — or can be — everywhere!

Involving Parents and Families

Partnering with parents and families to support children's mathematical development can be both rewarding and fun! Sharing math games to be played at home, or lending books in literacy bags that feature numbers and math concepts as well as story books are wonderful ways to involve families in the math curriculum. In addition, collecting environmental print or collecting information for class charts and graphs can turn into family projects. There are many resources for educators interested in involving parents in supporting their children's mathematical thinking, many of which are included in the next few pages. The Parents As Teachers program is also a wonderful resource; contact your school district for more information about this exemplary program.

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- Association for Childhood Education International: www.udel.edu/bateman/acei
- Center for Innovations in Special Education: www.coe.missouri.edu/~mocise
- Child Development Associate (CDA) National Credentialing Program: www.nncc.org/Evaluation/cdacb.html
- Children's Defense Fund: www.childrensdefense.org
- Conference on Standards for Preschool and Kindergarten Mathematics Education: www.gse.buffalo.edu/org/conference/
- Connections Newsletters: www.canr.uconn.edu/ces/child
- Early Childhood Education on Line: www.ume.maine.edu/ECEOL-L
- Early Childhood Educators' and Family Web Corner: users.stargate.net/~cokids
- Early Childhood News: www.earlychildhoodnews.com
- ERIC/EECE Clearing House on Elementary and Early Childhood Education: ericeece.org/publications.html
- Everything for Early Childhood Education Preschool-Grade 2: www.edupuppy.com
- Licensing of Child-Care Facilities in Missouri: www.health.state.mo.us/LicensingAndCertification/Dcc-gh.html
- Math and Children's Literature: www.carolhurst.com/subjects/math/math.html
- Math Forum: mathforum.org/library/levels/p/
- Missouri Department of Conservation: www.conservation.state.mo.us/teacher
- National Association for the Education of Young Children (NAEYC): www.naeyc.org
- National Association for Family Child Care: www.nafcc.org
- National Child Care Information Center: www.nccic.org
- National Council of Supervisors of Mathematics: ncsmonline.org
- National Council of Teachers of Mathematics: www.nctm.org/
- "On-Lion" for Kids: www2.nypl.org/home/branch/kids/
- Project Construct National Center: www.projectconstruct.org
- U.S. Department of Education, Office of Educational Research and Improvement and National Institute on Early Childhood Development and Education: www.ed.gov/pubs/EarlyMath/

Magazines:

- *The Buzz: Cool Ideas for Child Care Providers* (4 issues per year)
  Center for Innovations in Special Education
  152 Parkade Plaza, 601 Business Loop 70 W
  Columbia MO 65211-8020
  1-800-976-2473
- *Early Childhood News* (6 issues per year)
  330 Progress Road
  Dayton OH 45449
  1-800-607-4410
- *Scholastic Early Childhood Today* (8 issues per year)
  P.O. Box 54814
  Boulder CO 80322-4814
  1-800-544-2917
- *Young Children* (6 issues per year)
  National Association for the Education of Young Children (NAEYC)
  1509 16th Street, NW
  Washington DC 20036-2460
  1-800-424-2460

Other materials:

- NAEYC brochure for parents: *More than 1, 2, 3: The real basics of mathematics.* (McCracken, J.B.) No. 575. (See above address for ordering.)
- U.S. government booklet for parents: *Early Childhood: Where Learning Begins Mathematics.* (Print copies from www.ed.gov/pubs/EarlyMath/.)

Missouri Early Learning Standards for Science

Content Component	Process Standards
I. Physical Science	1. Explores physical properties of objects and materials. 2. Investigates properties of objects and materials. 3. Solves problems involving physical properties of objects and materials. 4. Represents observations of the physical world in a variety of ways.
II. Life Science	1. Explores characteristics of living things. 2. Investigates characteristics of living things. 3. Solves problems related to living things. 4. Represents observations about living things in a variety of ways.
III. Earth and Space	1. Explores properties of earth and space. 2. Investigates properties of earth and space. 3. Solves problems involving earth and space. 4. Represents observations about earth and space in a variety of ways.

children with confidence in their own ability to work through problems are active thinkers

Organization

The standards cover the broad scope of child development and are organized by:

I. **Content Component** — the specific content area to be addressed, such as physical science or life science.

II. **Process Standards** — identifiable competencies or capabilities in the process of scientific development, such as investigating properties of objects and materials or exploring properties of earth and space.

III. **Indicators** — observable milestones in the development of competencies, such as experimenting with simple tools or showing interest in plant or animal changes.

IV. **Examples** — specific behaviors children may exhibit in their scientific thinking.

This structure provides us with an accessible way to see how the standards fit into our curriculum and teaching practices.

Introduction for Teachers

This guide, along with the *Parent Handbook*, is a companion to the *Missouri Early Learning Standards for Science*. It is intended for all adults who work with preschool-age children and their families — teachers, caregivers and/or parent educators. It explains the standards and contains practical suggestions for creating engaging, developmentally appropriate learning communities to foster each child's scientific thinking.

Why is it important to have standards in science for early learners? In Missouri, the Outstanding Schools Act of 1993 called together a group of master teachers, parents and policy-makers from around the state. The result of that group's work are the Show-Me Standards, which are designed for students in kindergarten through grade 12 and serve to ensure that graduates of Missouri's public schools have the knowledge, skills and competencies to lead productive, fulfilling and successful lives. However, we all realize the foundations for learning are laid well before a child enters kindergarten. Research tells us the early years provide crucial opportunities for educators and caregivers to influence children's growth and development. If our goal is that every child enters kindergarten ready to learn and succeed, pre-kindergarten educational standards can provide us with shared understandings about the competencies critical for this to occur. In addition, pre-kindergarten standards provide a direct link to the Show-Me Standards, so we know that we are preparing children for the high expectations they will encounter as they progress through school.

To this end, the *Missouri Early Learning Standards for Science* describe what most children should know and be able to do in the area of science by the time they enter kindergarten. They represent a shared set of expectations for preschool children that were developed by drawing upon current research about how young children learn. It is important to keep in mind, however, that children learn and develop in their own unique ways. While research demonstrates that these standards are appropriate for most children who are about to enter kindergarten, our responsibility as educators is to assess where each child is on the continuum of scientific thinking and build on what that child knows and can do.

Ongoing observational assessment is a key element in supporting children's early scientific development. This guide will illustrate some indicators that teachers can reliably assess to show each child's progress over time. This data can be used to plan meaningful, engaging learning experiences that promote both scientific development and a love for solving problems. In addition, you will find information about creating rich environments to support the construction of scientific knowledge as well as for partnering with parents and families to promote an interest in science and an enthusiasm for learning. Lists of teacher resources and children's books focused on science are also included.

(b)(6)

I. Physical Science

Children are naturally interested in the objects and materials that constitute the physical world that surrounds them as well as in how objects and materials can be manipulated and changed. As they begin to explore these properties, they begin to build their knowledge about physical science.

1. Explores physical properties of objects and materials.

Indicators	Examples The child ...
a. Shows interest in the physical world.	• comments on changes in the physical world (e.g., says, "We made play dough out of salt, flour and water."). • looks at fiction and nonfiction books (e.g., *Mouse Paint, Trucks, Freight Train, Snow Balls, Stone Soup, How Things Work*) about the physical world.
b. Uses one or more senses to observe the physical world.	• comments on changes when substances are mixed, shaken or cooked (e.g., mixing paint, making butter from cream, cooking play dough). • collects objects of different shapes and sizes (e.g., marbles, coins, blocks). • listens to and identifies environmental sounds (e.g., cars, airplanes, wind, rain, birds).
c. Experiments with simple tools.	• explores ramps, magnets, magnifying glasses, scales, eyedroppers, unbreakable mirrors, cups, funnels, etc.

Teacher strategies to encourage children to explore the physical properties of objects and materials include:

- providing a variety of materials for children to use to manipulate and/or construct things (e.g., blocks of all sizes and shapes, tubes, ramps, pulleys, ropes, boxes).
- setting up learning centers for children to explore objects and materials. Center contents should be changed periodically to keep children interested.
- involving children in activities that involve transformation of materials (e.g., cooking, painting).
- making books about the physical world available to children in the literacy area and in other interest areas (e.g., block area, sensory area).
- reading books (including big books) aloud that feature aspects of the physical world.
- inviting visitors with a science-related vocation or hobby (e.g., scientists, construction workers, firefighters) to the classroom to discuss and/or demonstrate what they do and what equipment or tools they use.
- drawing children's attention to aspects of the physical world to promote their interest.
- asking open-ended questions to promote children's awareness of the physical world (e.g., asking, "What do you think happened to the snowball we left on the table?").
- modeling how to use simple tools to investigate and/or observe various objects (e.g., using a magnifying glass to look at a shell).
- encouraging children to make collections of objects they're interested in and engaging them in conversations about the objects.

I. Physical Science

Science is basically a process of inquiry — raising questions and then investigating methodically to answer them. Children have a natural curiosity about the world, and this curiosity provides the springboard for investigations that promote scientific thinking.

2. Investigates properties of objects and materials.

Indicators	Examples The child ...
a. Asks questions about objects and materials.	• asks, "Why does the ice cube melt?" • asks, "Why does this ball roll faster than that one?" • asks, "Why do magnets stick together?"
b. Experiments with objects and materials to gather information and observe reactions.	• plays in water with objects that sink and float. • repeatedly rolls a car down a ramp. • mixes colors using paint, watercolors, food coloring, etc.
c. Shows knowledge of physical properties of objects.	• sorts objects and materials by what they are made of (e.g., rock, metal, plastic, wood, glass, cloth). • sorts objects and materials by various characteristics (e.g., soft/hard, float/sink, loud/quiet). • tells (not always accurately) how ice, play dough, pudding, etc., is made.

Teacher strategies that promote children's investigations of the properties of objects and materials include:

- providing opportunities for them to manipulate objects and observe reactions (e.g., at the woodworking center, block area, light table, art area).
- modeling asking questions about objects/materials and encouraging children to find answers (e.g., asking, "I wonder how we can make the cars go down the ramp faster? How do you think we can find out?").
- giving children access to a variety of materials they can collect and engaging them in conversations about how they are sorting or classifying objects.
- modeling comparison language (e.g., wet/dry, shiny/dull, rough/smooth).
- supporting them in making observations about the physical world and making connections with what they already know or have observed.
- providing developmentally appropriate science software on the computer.

model how to use simple tools
to investigate and/or observe various objects

I. Physical Science

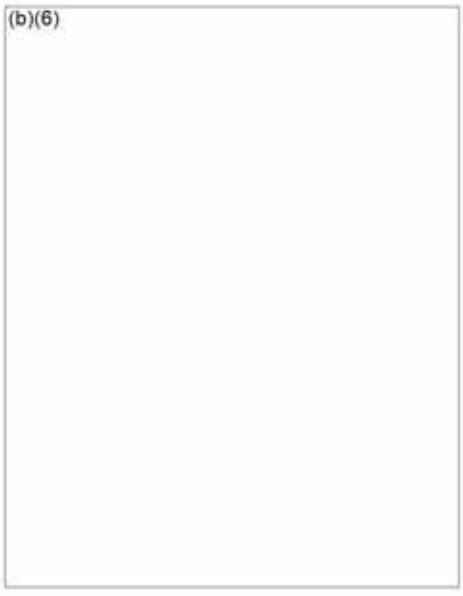
This standard refers to children's ability to identify and solve personally meaningful problems involving materials and objects they can manipulate and/or transform. As children work with things to solve problems of interest to them, they deepen their understanding of physics (interaction of matter and energy) and chemistry (how substances interact and change).

3. Solves problems involving physical properties of objects and materials.

Indicators	Examples The child ...
a. Identifies problems involving physical properties of objects and materials.	• says, "I want the car to go faster." • says, "I want to build a taller tower." • says, "I have red, blue and yellow paint, but I want green."
b. Experiments with objects to produce desired effects.	• moves the ramp to make a toy car go different speeds. • tries to make a new color of paint by mixing other paint colors. • tries to throw a ball at a target.
c. Makes predictions based on experiences with objects and materials.	• suggests which objects will sink or float. • guesses which ramp the car will go down faster. • predicts which objects magnets attract or repel (e.g., leaves, cotton balls, paper clips, nuts and bolts). • makes suggestions that will cause ice to melt faster.

Teacher strategies that promote problem solving with objects and materials include:

- asking open-ended questions (e.g., asking "How can we make the car go farther?" or "What happened when the magnet touched the paper clip?").
- taking advantage of spontaneous happenings to encourage problem solving with substances and objects (e.g., at snack time when something spills; in the block area as children attempt to construct tall towers).
- providing children with enough time and space to work with objects and materials and pursue their own inquiries (e.g., constructing with blocks).
- supplying a variety of materials for children to experiment with (e.g., to see what sinks or floats at the water table; to see how far objects such as feathers or pieces of paper go when they blow at them through straws).
- engaging children in predicting what will happen as they experiment.
- providing opportunities for children to test their predictions.
- encouraging children to build on what they know by making connections with other experiences they've had with objects and materials.



I. Physical Science

This standard refers to children's ability to demonstrate, in various ways, what they perceive through their senses as they experience the physical world. This skill is another building block for scientific thinking and provides a means for children to communicate their ideas about the physical world and how it works.

4. Represents observations of the physical world in a variety of ways.

Indicators	Examples The child ...
a. Represents observations through pretend play.	• pretends to prepare/cook food. • uses simple tools (e.g., magnets, magnifying glasses, ramps, tape measures, balls, prisms) in pretend play. • engages in role playing (e.g., acts like a scientist, chef, construction worker, artist, race car driver/pit crew member).
b. Represents observations through music and movement.	• pretends to skate on ice. • acts out a melting snowman, popping popcorn, an object rolling down a hill. • sings action songs (e.g., *I'm a Little Teapot, Johnny Works With One Hammer, Grand Old Duke of York, Jack and Jill Went Up the Hill*). • creates songs about experiences in the physical world.
c. Represents observations through art and construction.	• builds and/or draws towers, enclosures, roads, bridges, tunnels, ramps and vehicles. • intentionally mixes blue and yellow paint to make green. • draws "maps" or "blueprints" of constructions.
d. Talks about the physical world.	• asks, "How did you do that?" • tells a friend, "If you add another block to the tower, it will fall." • describes objects according to size, shape, color or speed. • uses names for tools (e.g., magnifying glass, magnet, scale, ramp). • uses texture words (e.g., bumpy, rough, soft, smooth, slick, hard). • uses measurement words (e.g., heavy/light, hot/cold, big/little, long/short, fast/slow).

Teacher strategies for promoting children's representation of their observations include:

- engaging them in conversations about the physical world.
- encouraging them to represent their observations in many different media as well as through language.
- engaging them in musical experiences and songs where they act out their observations (e.g., swaying in the wind).
- providing resources and opportunities for them to experiment with writing or drawing their observations (e.g., a block structure, a tower).
- providing appropriate props for children to role play.
- supplying the classroom with posters, books and magazines about the physical world and its phenomena.
- modeling use of vocabulary to describe the physical world (e.g., measurement and texture words, names of tools).
- providing many opportunities (e.g., at circle time, during center time) for children to represent their ideas about how the physical world works and to exchange their ideas with their peers.

engage
children in
conversations
about the
physical world

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II. Life Science

This standard concerns the child's developing understanding of the difference between living and nonliving things as well as of how living things grow and change. Because young children are active learners, they build their knowledge through direct experience with living things in the environment and in the classroom.

1. Explores characteristics of living things.

Indicators	Examples The child ...
a. Shows interest in plant and animal changes.	• comments on changes in living things (e.g., babies grow to adults, seeds become plants, caterpillars become butterflies, birds hatch from eggs). • remarks that the leaves are changing colors, the trees have buds, the flowers are blooming. • looks at books, magazines and posters that feature living things (e.g., *The Very Hungry Caterpillar; Ranger Rick's Your Big Back Yard; Zoo Book*; magazines and posters from the Missouri Department of Conservation).
b. Uses one or more senses to observe the natural world.	• expresses wonder/excitement about living things (e.g., rabbits, deer, fish, spiders, birds, blooming flowers). • says, "I hear the birds singing," or "The dog is barking." • says, "I smell a skunk," or "Smell this flower." • comments on the different tastes of food. • holds or watches a caterpillar or worm to see how it moves. • catches bugs and places them in a container. • uses a magnifying glass to observe living things. • examines leaves, pine cones, shells, etc.

Teacher strategies to support children's exploration of the characteristics of living things include:

- keeping a class pet (or an aquarium, ant farm, etc.) and encouraging children to observe and care for the creature.
- engaging children in sensory experiences with natural objects or living things (with appropriate care and safety considerations in mind).
- drawing children's attention to living things in the environment when opportunities arise.
- taking children on nature walks and/or explorations of the playground to discover what lives there.
- providing opportunities for children to make collections of seeds, leaves, pine cones, etc., as well as to discuss the characteristics of what they collect.
- supplying the classroom with nonfiction books that are about living things and that illustrate the life cycle.
- engaging the children in planting seeds (indoors and outdoors) and observing how plants grow and change.

(b)(6)

provide opportunities for children to collect seeds, leaves, pine cones, etc., as well as to discuss the characteristics of what they collect

II. Life Science

Young children are fascinated by the attributes of living things as well as by the transformations living things (including themselves) exhibit as they develop and move through the cycle of life. Children's natural curiosity and wonder can be the inspiration for beginning scientific inquiry and early investigations about the natural world.

2. Investigates characteristics of living things.

Indicators	Examples The child ...
a. Asks questions about the natural world.	• asks, "Why didn't the seed grow?" • asks, "Where do babies come from?" • asks, "Where do the frogs go in winter?" • asks, "How do fish breathe?" • asks, "What do animals eat?"
b. Collects information to learn about living things.	• collects leaves, pine cones, shells, seeds, bugs, etc. • uses a magnifying glass to investigate a spider web. • uses real or pretend binoculars to observe nature (e.g., birds, trees). • looks at books and magazines to learn about living things.
c. Shows knowledge of the characteristics of living things.	• matches mother animals with their babies using pictures, stuffed animals, animal matching games, animal figurines, etc. • sorts collections (e.g., leaves, pine cones, shells, seeds, bugs). • talks about the differences in animals (e.g., birds have feathers, fish live in water, dogs and cats have fur). • identifies living versus nonliving things (e.g., says, "That's just a plastic snake!").

Teacher strategies to promote children's investigations into the characteristics of living things include:

- asking children questions to engage their interest about living things they can observe in the classroom or outdoors (e.g., asking, "Where do you think the toad lives?" or "Why do you think these leaves are drooping?").
- using children's questions and interest about specific living things (e.g., spiders, plants) to engage them in projects that will extend throughout the curriculum.
- reading aloud books about living things and the life cycle and engaging children in conversations about this information.
- prompting discussions about how the human body works by asking questions (e.g., asking, "How do you know when you're hungry?").
- giving children opportunities to handle animals, insects, reptiles, etc., in order to explore their characteristics (keeping health and safety considerations in mind).
- giving children access to resources so they can make their own collections of artifacts from the natural world (e.g., shells, seeds and seed pods, leaves, feathers).
- encouraging children to represent their observations and ideas about living things in a variety of media as well as through language.

give children access to resources
so they can make their own collections
of artifacts from the natural world

(b)(6)

II. Life Science

This standard reflects children's ability to identify and attempt to solve problems involving living things and the natural world. It is important to keep in mind, however, that children's "solutions" may not always be accurate. In fact, these errors in thinking are part of a developmental process as children construct their knowledge about living things and the natural world.

3. Solves problems related to living things.

Indicators	Examples The child ...
a. Identifies problems involving living things.	• comments that the plant is drooping (wilting). • complains that the animal cage is smelly. • says, "I can't play outside because the bugs will bite."
b. Recognizes that living things have needs.	• says, "The plant needs water." • says, "I'm hungry." • says, "The dog wants to play."
c. Makes predictions based on experiences with living things.	• says, "I think a baby chick will come out of the egg." • says, "If we don't water the plant, it will die." • says, "When the dog brings the ball, he wants to play." • says, "When the baby cries, she needs you."

Teacher strategies to support children's problem solving related to living things include:

- acknowledging their observations about changes involving living things (including human beings) and helping them make connections between cause and effect(s).
- modeling appropriate care of living things (e.g., plants, animals, reptiles, themselves).
- reading aloud books that deal with problems of living things.
- asking questions to promote their problem solving (e.g., asking, "Why do you think the cage is smelly?").
- giving them many opportunities to observe and interact with living things (indoors and outdoors).
- modeling wonder and interest in the natural world.

(b)(6)

(b)(6)

II. Life Science

This standard refers to children's ability to express what they perceive through their senses as they experience the natural world and interact with living things. It also refers to children's growing awareness of their own selves/bodies as part of the natural world. This skill is another building block for scientific thinking and provides a means for children to communicate their ideas about nature and the life cycle.

4. Represents observations about living things in a variety of ways.

Indicators	Examples The child ...
a. Represents observations through pretend play.	• Engages in role playing (e.g., plays a veterinarian, gardener, doctor, farmer, florist, parent). • pretends to be an animal (e.g., dog, elephant, bird).
b. Represents observations through music and movement.	• moves like an elephant, spider or snake. • sings songs about living things (e.g., *Six Little Ducks, Old MacDonald Had a Farm, Five Little Speckled Frogs, Baby Bumble Bee, And the Green Grass Grew All Around, Sweetly Sings the Donkey*). • creates songs about living things.
c. Represents observations through art and construction.	• draws or paints pictures of animals. • uses blocks to build a farm or zoo. • draws or paints pictures of his own family.
d. Talks about plants and animals.	• tells about family pets, trips to the zoo, etc. • comments on how to care for a pet. • uses words such as leaf, tree and flower in conversation. • uses names of living things (e.g., elephant, cow, bird, fish, dog, spider, insect, flower, tree, grass). • uses words such as beak, wings, skin, shell, claws, head, tail, feathers, horns and fur in conversation.

Teacher strategies to support children's ability to represent their observations about living things include:

- providing an ample supply of blocks and animal and human figures as well as adequate space and time for children to play with them and to discuss their actions and creations.
- providing opportunities for children to represent their observations from the zoo, a field trip, etc., by making a class book.
- inviting visitors with a vocation or hobby involving living things or the natural world (e.g., veterinarian, farmer, nurse) into the classroom.
- supporting children's pretend play concerning living things and places where living things are found (e.g., zoo, circus, farm, doctor's office).
- modeling the vocabulary used to describe the characteristics of living things.
- supplying the classroom with appealing books involving living things and the natural world.
- engaging children in music and/or movement activities where they can imitate living things and the sounds they make.
- supporting children's attempts to make pictures or sculptures (e.g., with play dough or modeling clay) of living things.
- encouraging children to "write" about their observations (e.g., in a daily journal, in letters to grandparents).
- engaging children in conversations about their observations (e.g., at morning meeting, while working in learning centers).

invite visitors with a vocation or hobby
involving living things or the natural world
into the classroom

III. Earth and Space

This standard refers to children's interest in and curiosity about earth and space. These abstract concepts start to become meaningful as children begin to observe the earth and sky and their characteristics and phenomena.

1. Explores properties of earth and space.

Indicators	**Examples** **The child ...**
a. Shows interest in earth and space.	• comments on changes in the weather, clouds or seasons. • looks at books and magazines about earth and space (e.g., *In the Night Sky; Happy Birthday Moon; Goodnight Moon; In the Small, Small Pond; The Snowy Day; Mud Puddle; Let's Go Rock Collecting; Star Gazers; Ranger Rick's Your Big Back Yard*).
b. Uses one or more senses to observe earth and space.	• plays with, collects and examines rocks, soil (dirt), mud, sand, shells, etc. • notices shadows. • says, "I hear the rain (thunder, wind)." • looks at the clouds, the stars and the moon.
c. Uses simple tools to explore earth and space.	• uses a sand sifter, garden tools, etc., to explore the dirt, mud, sand and rocks. • uses a flashlight to make shadows. • plays with measuring devices (e.g., thermometer, rain gauge, ruler, cup, bowl). • experiments with windsocks, pinwheels, telescopes, binoculars, kites, magnifying glasses, etc.

Teacher strategies to support children's exploration of the properties of earth and space include:

- drawing their attention to weather and changes in weather and the seasons and engaging them in conversations about what they see, hear and feel.
- supplying the classroom with books and magazines about earth and space.
- providing them with opportunities to play with soil (dirt), sand and mud.
- equipping the sand and/or water table with simple tools and measuring devices (e.g., sifters, trowels, hand rakes and hoes, measuring cups).
- engaging them in shadow play.
- setting up a learning center with a light table.
- reading aloud stories about earth and space, the moon and stars, etc.
- encouraging them to make rock collections.

(b)(6)

III. Earth and Space

Young children's knowledge about earth and space is constructed in very concrete ways through "hands-on, minds-on" investigations of materials and processes that are meaningful to them. This standard refers to these early attempts to find out about the earth and space.

2. Investigates properties of earth and space.

Indicators	Examples The child asks ...
a. Asks questions about earth and space.	• "How do you make mud?" • "Why is this rock shiny?" • "What makes the thunder and lightning?" • "What happened to the snow?" • "Why is the moon out in the daytime?" • "Where does the sun go to sleep?" • "Why is the moon following me?"
b. Conducts experiments to gain knowledge of earth and space.	• adds water to soil (dirt) to make mud. • looks for rocks that will write on concrete. • tries to change rocks (e.g., breaks them into smaller pieces or makes them shiny by using water or oil). • paints with water on outside surfaces.
c. Shows knowledge of changes in earth and space.	• comments on changes in the weather, clouds, temperature, daylight and darkness. • says, "The moon is different tonight." • comments on changes in puddles, grass, soil, sand, wood chips, etc.

Teacher strategies to promote children's investigations of the properties of earth and space include:

- providing many opportunities for children to play with sand and water and supporting their conversations about their actions and experiments.
- asking open-ended questions to encourage children's investigations (e.g., asking, "Why do you think the puddle is gone?").
- providing an outdoor area where children can dig, play in water, etc.
- encouraging children to make observations and comparisons about the sky, the weather and the seasons.
- providing opportunities for children to explore the attributes of various rocks and minerals, different kinds of dirt/soil, etc.

(b)(6)

III. Earth and Space

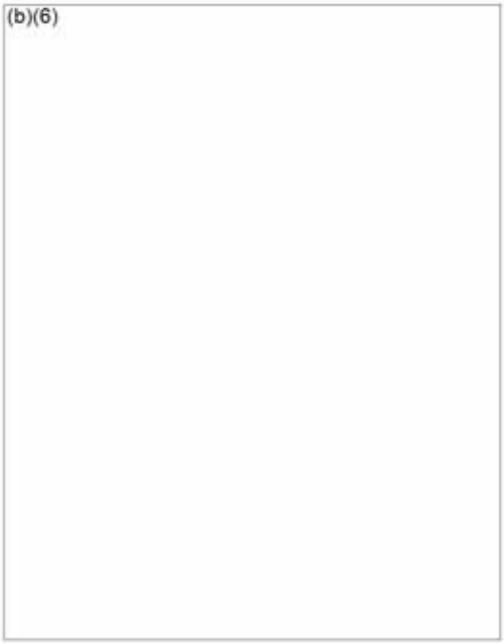
The standard refers to children's ability to identify and solve personally meaningful problems related to earth and space. As children begin to build theories to solve problems that are of interest to them, they deepen their understanding of the environment in which they live. Their theories may not be accurate, but the process of identifying a problem and thinking it through is the foundation for the development of reasoning and scientific thought.

3. Solves problems involving earth and space.

Indicators	**Examples** **The child says ...**
a. Identifies problems involving earth and space.	• "There is no grass under the slide." • "It's cold outside." • "I can't walk on the sidewalk (sand). It is too hot." • "My shoes got wet when I stepped in the puddle." • "I can't dig in this hard dirt."
b. Makes predictions based on experiences with earth and space.	• "I hear thunder. It's going to rain." • "We get to play outside because it is sunny." • "I think the snow will melt because the sun is shining." • "I might fall on the ice." • "If it snows too much, we can't go anywhere." • "Water and dirt make mud."

Teacher strategies for promoting children's ability to solve problems related to earth and space include:

- taking advantage of spontaneous happenings during the day to encourage problem solving (e.g., going outdoors after rain has caused puddles to form).
- providing children with enough time and space to play with sand, water, soil/dirt, rocks, etc., and pursue their own inquiries.
- engaging children in shadow play.
- engaging children in predicting what will happen as they experiment.
- providing opportunities for children to test their predictions.
- encouraging children to make connections with other experiences they've had in order to build on what they know about the earth, sky, weather, seasons, etc.



III. Earth and Space

This standard reflects children's growing ability to communicate their observations about earth and space in a variety of ways as well as through language. As the child becomes more aware of the elements and features of earth and space, she begins to communicate her observations and understandings.

4. Represents observations about earth and space in a variety of ways.

Indicators	Examples The child ...
a. Represents observations through pretend play.	• engages in role playing (e.g., plays a weather person, astronaut, farmer). • dresses dolls, puppets or flannel-board characters according to the weather. • uses simple tools (e.g., magnifying glasses, binoculars, telescopes, scales, maps, digging tools, brushes, buckets) to pretend.
b. Represents observations through music and movement.	• moves like the wind, snowman, snowflake, rocket, astronaut in space, tornado, dinosaur, etc. • sings songs such as *Twinkle, Twinkle, Little Star*; *The Itsy, Bitsy Spider*; *Hey Diddle Diddle*; and *If All the Raindrops Were Lemondrops and Gumdrops*. • creates songs about earth and space.
c. Represents observations through art and construction.	• makes landscapes with mud, sand and water. • draws or paints pictures of the sky, moon, stars, sun, earth, etc. • uses play dough or blocks to make mountains, snowmen, spaceships, caves, dinosaurs, etc.
d. Talks about earth and space.	• describes rocks according to size, shape and color. • says, "The moon and stars come out at night." • talks about night and day. • talks about winter, spring, summer and fall. • uses earth words (e.g., soil, ocean, mountain, sand, rock, river, lake, creek). • uses weather words (e.g., rainy, windy, snowy, foggy, sunny, cloudy, temperature). • uses seasonal words (e.g., winter, spring, summer and fall). • uses space words (e.g., moon, star, sun, sky, air).

Teacher strategies for supporting children's representations of earth and space include:

- asking open-ended questions (e.g., why and how questions) to engage children in conversations about elements of earth and space.
- encouraging children to represent their observations about the seasons, clouds, rivers, mountains, and other components of earth and space in many different media as well as through language.
- engaging children in musical experiences and songs in which they act out their observations (e.g., twirling like a snowflake).
- providing resources and opportunities for children to experiment with writing or drawing their observations (e.g., of a thunder storm, of the night sky).
- inviting guests (e.g., miners, geologists, weather forecasters) to the classroom to discuss and/or demonstrate what they do and what equipment or tools they use.
- providing appropriate props for children to role play.
- supplying the classroom with posters, books and magazines about earth and space.
- modeling vocabulary associated with earth and space (e.g., weather and seasonal words, names of tools).
- providing many opportunities (e.g., at circle time, during center time) for children to represent their ideas about earth and space and to exchange their ideas with their peers.

supply the classroom with posters, books and magazines about earth and space

Creating an Environment to Promote Scientific Thinking

An environment that promotes children's interest in science is one that stimulates inquiry and experimentation. For young children, the process of scientific thinking begins with wonder and questioning. Supplying the classroom and science area with interesting artifacts from the physical and natural worlds as well as with simple scientific instruments and tools such as magnifying glasses, scales and other measuring devices, a variety of containers, tubes, and sand and water tables will lay the foundation for children's investigations and problem solving. An ample supply of blocks, rollers, ramps, ropes and pulleys, balls and pendulums, etc., will also inspire children to experiment with objects. Providing a supply of found materials (e.g., rocks, shells, pine cones) for children to explore is also helpful. Periodically introducing new items and rotating others helps keep children's interest. In addition, when thinking about enhancing the environment to support children's scientific thinking, it is important to remember that science can extend across all curricular areas. For example, the art area also lends itself naturally to children's investigations and experiments with paint, play dough and clay. Including a wide variety of picture books and texts about nature, earth and space, and the physical world in the literacy center will also support children's scientific thinking. And remember, equipping a classroom for scientific inquiry need not be expensive. A plastic tub can serve as a water table, found objects and recyclables can serve to promote children's experiments and investigations, and the outdoors is a great laboratory!

Involving Parents and Families

Partnering with parents and families to support children's scientific thinking can be both rewarding and fun. Encouraging families to involve their children in cooking, to take "field trips" around their yards or neighborhoods to observe nature or make collections of interesting rocks, leaves, nuts, etc., or to observe the moon and stars are wonderful ways to involve families in the science curriculum. Lending books that feature scientific topics and the natural world is another way to both promote interest in science and literacy development. In addition, collecting artifacts or information for class projects can turn into family endeavors. There are many resources for educators interested in involving parents in supporting their children's scientific thinking; many are included in this handbook. The Parents as Teachers program is also a wonderful resource; contact your school district for more information about this exemplary program.

Resources

Books:

Anderson, A., Diehn, G., and Krautwurst, T. (1998). *Geology crafts for kids: 50 nifty projects to explore the marvels of planet earth*. New York, NY: Sterling Publishing.

Blobaum, C. (1999). *Geology rocks! 50 hands-on activities to explore the earth*. Charlotte, VT: Williamson Publishing Co.

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Fiarotta, P. (1975). Snips and snails and walnut shells: *Nature crafts for children*. New York, NY: Workman Publishing Company.

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Hickman, P.M. (1988). *Birdwise: Forty fun feats for finding out about our feathered friends*. Reading, MA: Addison-Wesley Publishing.
Hickman, P.M. (1990). *Bugwise: Thirty incredible insect investigations and arachnid activities*. Reading, MA: Addison-Wesley Publishing.
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Holt, B.-G. (1989). *Science with young children* (Rev. ed.). Washington, DC: National Association for the Education of Young Children.
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Kamii, C., and DeVries, R. (1978/1993). *Physical knowledge in preschool education: Implications of Piaget's theory*. New York, NY: Teachers College Press.
Katz, A. (1986). *Naturewatch*. Reading, MA: Addison-Wesley.
Kohl, M.F. (1992). *Mudworks: Creative clay, dough, and modeling experiences*. Bellingham, WA: Bright Ring Publishing.
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Kraul, W. (1995). *Earth, water, fire and air: Playful explorations in the four elements*. Mt. Rainier, MD: Gryphon House.
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Linglebach, J. (Ed.) (1989). *Hands-on nature: Information and activities for exploring the environment with children*. Woodstock, VT: Vermont Institute of Nature Science.
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Mitchell, J. (1996). *The curious naturalist*. Lincoln, MA: Massachusetts Audubon Society.
National Wildlife Federation. (1997). New York, NY: McGraw-Hill.
Ranger Rick's Naturescope: Birds, birds, birds!
Ranger Rick's Naturescope: Wild about weather.
Ranger Rick's Naturescope: Astronomy adventures.
Ranger Rick's Naturescope: Wading into wetlands.
Ranger Rick's Naturescope: Endangered species: Wild and rare.
Ranger Rick's Naturescope: Geology: The active earth.
Ranger Rick's Naturescope: Let's hear it for herps.
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Ranger Rick's Naturescope: Trees are terrific!
Ranger Rick's Naturescope: Amazing mammals: Part 1.
Ranger Rick's Naturescope: Amazing mammals: Part II.
Ranger Rick's Naturescope: Incredible insects.
Ranger Rick's Naturescope: Pollution: Problems and solutions.
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VanCleave, J. (1996). *Rocks and minerals: mind-boggling experiments you can turn into science fair projects*. New York, NY: John Wiley and Sons.
VanCleave, J. (1998). *Insects and spiders: mind-boggling experiments you can turn into science fair projects*. New York, NY: John Wiley and Sons.
VanCleave, J. (2000). Science around the year. New York, NY: John Wiley and Sons.
Williams, R.A., Rockwell, R.E., and Sherwood, E.A. (1990). Mudpies to magnets: A preschool science curriculum. Mt. Rainier, MD: Gryphon House.

Magazines:

- *Early Childhood News* (6 issues per year)
  330 Progress Road
  Dayton OH 45449
  1-800-607-4410
- *Scholastic Early Childhood Today* (8 issues per year)
  P.O. Box 54814
  Boulder CO 80322-4814
  1-800-544-2917
- *Young Children* (6 issues per year)
  National Association for the Education of Young Children (NAEYC)
  1509 16th Street, NW
  Washington DC 20036-2460
  1-800-424-2460

Web sites:

- Association for Childhood Education International — www.udel.edu/bateman/acei
- Early Childhood Education on Line — www.ume.maine.edu/ECEOL-L
- Early Childhood Educators' and Family Web Corner — users.sgi.net/~cokids
- Everything for Early Childhood Education Preschool-Grade 2 — www.edupuppy.com
- Houghton Mifflin K-8 Education Place: Science Center — eduplace.com/science/index.jsp
- Missouri Department of Conservation Teacher's Page — mdc.mo.gov/teacher
- Missouri DESE Early Childhood — dese.mo.gov/divimprove/fedprog/earlychild/index.html
- National Association for Family Child Care — www.nafcc.org
- National Institute for Early Education Research — nieer.org
- On-Lion for Kids! — kids.nypl.org
- Project Construct National Center — www.projectconstruct.org
- The Southern Early Childhood Association online position statements — www.southernearlychildhood.org/position.html
- U.S. Department of Health and Human Services National Child Care Information Center — www.nccic.org
- University of Connecticut Connections Newsletters — www.canr.uconn.edu/ces/child
- University of Illinois Early Childhood and Parenting (ECAP) Collaborative — ecap.crc.uiuc.edu

Children's books:

Air and water: *Small Cloud* — Ariane; *Water* — Frank Asch; *Wind* — Ron Bacon; *Air Is All Around You* — Franlyn M. Branley; *Follow the Water From Brook to Ocean* — Arthur Dorrors; *A Drop of Water* — Walter Wick.

Amphibians: *All About Frogs* — Jim Aronsky; *Marsh Music* — Marianne Berkes; *Salamanders* — Emery Bernhard; *Toad* — Ruth Brown; *Amphibian: Eyewitness Books* — Barry Clarke; *Can You Find Me? A Book About Animal Camouflage* — Jennifer Dewey; *Why Frogs Are Wet* — Judy Hawes.

Animals: *I Was Walking Down the Road* — Sarah E. Barchas; *One Earth, a Multitude of Creatures* — Peter Roop and Connie Roop; *What's Inside? Small Animals* — Angela Royston; *When Animals Are Babies* — Elizabeth Schwartz.

Aquatic life: *Otters Under Water* — Jim Aronsky; *Around the Pond* — Ann Cooper; *My River* — Shari Halpern; *The River: A First Discovery Book* — Gallimard Jeunesse and Laura Bour; *Pond Year* — Kathryn Lasky; *Look Closer: Pond Life* — Barbara Taylor; *The Beaver Pond* — Alvin Tresselt.

Birds: *Birds: A First Discovery Book* — Claude Delafosse and Rene Mettler; *How Do Birds Find Their Way?* — Roma Gans; *The Barn Owls* — Tony Johnston; *About Birds: A Guide for Children* — Cathryn Still; *Have You Seen My Duckling?* — Nancy Tafuri.

Caves: *A Journey Through Time: The Cave Painter of Lascaux* — Roberta Angeletti; *First Look: Under The Ground* — Daphne Butler; *Look Closer: Cave Life* — Christine Gunzi; *Painters of the Caves* — Patricia Lauber; *Looking Inside Caves and Caverns* — Ronald Schultz.

Energy: *Switch On, Switch Off* — Melvin Berger; *All About Electricity* — Melvin Berger; *Who Likes the Sun?* — Beatrice Schenk DeRegniers; *Sun Up, Sun Down* — Gail Gibbons; *The True Book of Energy* — Illa Pondendorf.

Fish: *The Little Fish That Got Away* — Bernadine Cook; *Blue Sea* — Robert Kalan; *Swimmy* — Leo Lionni; *What's It Like To Be a Fish?* — Wendy Pfeffer; *Fishes* — Brian Wildsmith.

Food chains: *Bugs for Lunch* — Margery Facklam; *What About Ladybugs?* — Celia Godkin; *What Do You Do When Something Wants To Eat You?* — Steve Jenkins; *Eat and Be Eaten* — Iela Mari; *Watch Where You Go* — Sally Noll.

Habitat: *Homes in the Ground* — Susan Canizares Mary Reid; *In the Woods* — Ermanno Cristini and Luigi Puricelli; *In the Tall, Tall Grass* — Denise Fleming; *The True Book of Animal Homes* — Illa Pondendorf; *What Lives in a Shell?* — Kathleen Weidner Zoehfeld.

Harvest: *Raccoons and Ripe Corn* — Jim Aronsky; *Pelle's New Suit* — Elsa Besckow; *Picking Apples and Pumpkins* — Amy Hutchings; *Apples and Pumpkins* — Anne Rockwell; *Autumn Harvest* — Alvin Tresselt; *Working Cotton* — Sherley Anne Williams.

Insects: *Ladybug, Ladybug* — Ruth Brown; *What Do Insects Do?* — Susan Canizares and Pamela Chanko; *Insects* — John Grassy; *From Caterpillar to Butterfly* — Deborah Heiligman; *How to Hide a Butterfly and Other Insects* — Ruth Heller; *Bugs, Bugs, Bugs!* — Mary Reid and Betsey Chessen.

Land use: *Common Ground: The Water, Earth and Air We Share* — Molly Bang; *Building a House* — Byron Barton; *The First Snowfall* — Anne Rockwell and Harlow Rockwell; *City in Summer* — Eleanor Schick; *Letting Swift River Go* — Jane Yolen.

Mammals: *Big Tracks, Little Tracks* — Franklyn M. Branley; *Animal Tracks* — Arthur Dorros; *The Milk Makers* — Gail Gibbons; *Animals Born Alive and Well* — Ruth Heller; *Chipmunk at Hollow Tree Land* — Victoria Sherro; *The Rabbit Story* — Alvin Tresselt.

Old-time days: *Charlie Needs a Cloak* — Tomie dePaola; *Pancakes for Breakfast* — Tomie dePaola; *General Store* — Rachel Field; *Native American Rock Art: Messages From the Past* — Yvette LaPierre; *Who Came Down That Road?* — George Ella Lyon.

Plants and flowers: *Flower Garden* — Eve Bunting; *Growing Vegetable Soup* — Lois Ehlert; *From Seed to Plant* — Gail Gibbons; *The Reason for a Flower* — Ruth Heller; *The Carrot Seed* — Ruth Krauss.

Recycling and pollution: *The Earth and I Are Friends* — Frank Asch; *Recycle: A Handbook for Kids* — Gail Gibbons; *The Compost Heap* — Harlow Rockwell; *Litterbugs Come in Every Size* — Norah Smaridge.

Reptiles: *All About Alligators* — Jim Aronsky; *All About Rattlesnakes* — Jim Aronsky; *All About Turtles* — Jim Aronsky; *Can You Find Me? A Book About Animal Camouflage* — Jennifer Dewey; *Turtles and Snails: A First Discovery Book* — Gallimard Jeunesse and Gilbert Houbre; *The Fascinating World of Snakes* — Maria Angels Julivert; *Eyes on Nature: Lizards* — Robert Matero.

Rocks: *Fossils Tell of Long Ago* — Aliki; *Earthquakes* — Franklyn M. Branley; *Volcanoes* — Franklyn M. Branley; *The Pebble in My Pocket* — Meredith Hooper; *On My Beach There Are Many Pebbles* — Leo Lionni; *Hobby Handbooks: Rocks and Fossils* — Ray Oliver.

Seasons: *Spring* — Asun Balzola and J.M. Parramon; *A Winter Day* — Douglas Florian; *A Pocketful of Seasons* — D.V. Foster; *Fresh Fall Leaves* — Betsy Franco; *On a Summer Day* — Lois Lenski; *Seeing Science Through Art: Sky Tree* — Thomas Locker.

Seeds: *The Dandelion Seed* — Joseph Anthony and Cris Arbo; *All About Seeds* — Melvin Berger; *The Tiny Seed* — Eric Carle; *Apples* — Gail Gibbons; *From Seed to Plant* — Gail Gibbons; *The Reason for a Flower* — Ruth Heller; *How a Seed Grows* — Helene J. Jordan.

Shadows: *What Makes a Shadow?* — Clyde Robert Bulla; *The Shadow Book* — Beatrice Schenk DeRegniers; *Footprints and Shadows* — Anne Wescott Dodd; *Me and My Shadow* — Arthur Dorros; *Shadows* — Carolyn G. Otto.

Soil: *Deep Down Underground* — Oliver Dunrea; *The Pottery Place* — Gail Gibbons; *Muddigush* — Kimberly Knutson; *Under Your Feet* — Joanna Ryder; *Our Earthworms* — Herbert H. Wong.

Spiders: *Spider's Web* — Christine Back; *Spiders* — Gail Gibbons; *Be Nice to Spiders* — Margaret Bloom Graham; *Outside and Inside Spiders* — Sandra Markel; *I Love Spiders* — John Parker.

Trees and forests: *Look at a Tree* — Eileen Curran; *From Tree to Paper* — Wendy Davis; *Mr. Tamarin's Trees* — Kathryn Ernst; *A Carpenter* — Douglas Florian; *The Tree in the Ancient Forest* — Carol Reed-Jones; *Johnny Maple-Leaf* — Alvin Tresselt.

Weather: *Flash, Crash, Rumble and Roll* — Franklyn M. Branley; *The Cloud Book* — Tomie dePaola; *Snowballs* — Lois Ehlert; *Thundercake* — Patricia Polacco; *The First Snowfall* — Anne Rockwell and Harlow Rockwell; *It Looked Like Spilt Milk* — Charles G. Shaw.

Missouri Early Learning Standards for Social and Emotional Development and Approaches to Learning

Content Component	Process Standards
I. Knowledge of Self	1. Exhibits self-awareness. 2. Develops self-control. 3. Develops personal responsibility.
II. Knowledge of Others	1. Builds relationships of mutual trust and respect with others. 2. Works cooperatively with children and adults.
I. Approaches to Learning	1. Shows curiosity. 2. Takes initiative. 3. Exhibits creativity. 4. Shows confidence. 5. Displays persistence. 6. Uses probelm-solving skills.

children are born with a desire to learn about and make sense of their world

Organization

The standards cover the broad scope of child development and are organized by:

I. **Content Component** — the specific content area to be addressed; for example, knowledge of self and knowledge of others.

II. **Process Standards** — identifiable competencies or capabilities in the process of social and emotional development, such as developing self-control and building relationships of mutual trust and respect with others.

III. **Indicators** — observable milestones in the development of competencies, such as initiating interactions with others and participating successfully as a member of a group.

IV. **Examples** — specific behaviors children may exhibit in their development, such as expressing preferences, listening while others are speaking and sharing ideas in a group situation.

This structure provides us with an accessible way to see how the standards fit into our curriculum and teaching practices.

Introduction for Teachers

This guide, along with the *Parent Handbook*, is a companion piece to the *Missouri Early Learning Standards for Social and Emotional Development & Approaches to Learning*. It is intended for all adults who work with preschool-age children and their families — teachers, caregivers, and/or parent educators. The guide is designed to provide an explanation of the standards and contains practical suggestions for creating engaging, developmentally appropriate learning communities where each child's social and emotional development is fostered.

Why is it important to have such standards? In Missouri, the Outstanding Schools Act of 1993 called together a group of master teachers, parents and policy-makers from around the state. The Show-Me Standards were the result of that group's work. Those standards are designed for students in kindergarten through grade 12 and serve to ensure that graduates of Missouri's public schools have the knowledge, skills and competencies to lead productive, fulfilling and successful lives.

However, we all realize that the foundations for learning are laid well before a child enters kindergarten! Research tells us that the pre-kindergarten years provide crucial opportunities for educators and caregivers to influence children's growth and development. If our goal is that every child enter kindergarten ready to learn and succeed, pre-kindergarten educational standards can provide us with shared understandings about the competencies critical for this to occur. In addition, pre-K standards provide a direct link to the Show-Me Standards, so we know that we are preparing children for the high expectations they will encounter as they progress through school.

(b)(6)

To this end, the *Missouri Early Learning Standards for Social and Emotional Development & Approaches to Learning* describe the social and emotional competencies most children should demonstrate by the time they enter kindergarten. They represent a shared set of expectations for preschool children that were developed by drawing upon current research about how young children develop and learn. It is important to keep in mind, however, that children develop and learn in their own unique ways. While research demonstrates that these standards are appropriate for most children who are about to enter kindergarten, our responsibility as educators is to assess where each child is on the developmental continuum and build on what that child knows and can do.

Educators can determine this only through ongoing observational assessment. This guide will illustrate some indicators that teachers can reliably assess to show each child's progress over time. This data can be used to plan meaningful, engaging learning experiences that promote both social and emotional competencies and strong, sustainable learning communities. You will also find information about creating supportive environments and partnering with parents and families to promote community building and an enthusiasm for learning as well as a list of helpful resources.

I. Knowledge of Self

This standard refers to the child's growing awareness of his or her own preferences and abilities as well as personal information. As children develop a sense of personal identity, they begin to recognize the characteristics that make them unique as individuals and to build self-esteem. They also begin to develop a sense of their family connections and cultural identity. This is a crucial early step along the pathway to becoming an autonomous, that is, independent and self-governing, person. Also, knowing and understanding one's self is the basis for knowing and understanding others and leads to the capacity to take others' perspectives.

1. Exhibits self-awareness.

Indicators	**Examples** **The child ...**
a. Shows respect for self.	• stands up for his or her own rights and needs. • acknowledges accomplishments (e.g., says, "I can hit the ball."). • uses self-help skills (e.g., washing hands with soap and water, brushing teeth with assistance, trying new foods).
b. Develops personal preferences.	• makes choices. • expresses likes and dislikes. • chooses a favorite color, food, song, friend, etc.
c. Knows personal information.	• describes self using several basic characteristics (e.g., gender, age, hair color or eye color). • refers to self by first and last name. • knows parents'/guardians' names. • may know address and telephone number.

Teacher strategies to support development of self-awareness include:

- providing opportunities for children to express preferences and make choices throughout the day (e.g., at area time or at snack time).
- allowing children sufficient time to consider and make choices.
- respecting children's preferences and decisions (within reason and always with regard to safety issues).
- accepting children's ideas and opinions.
- encouraging children to express preferences through modeling.
- playing games, such as the name game, to help children learn and remember personal information.

I. Knowledge of Self

This standard refers to the child's increasing ability to control impulses and participate in activities with others as well as to adapt to changing conditions in acceptable and culturally appropriate ways.

2. Develops self-control.

Indicators	**Examples** **The child ...**
a. Follows simple rules.	• follows a few clear and consistent home or classroom rules. • follows rules made with adults and/or peers in a game of play. • follows safety rules.
b. Accepts transitions and follows daily routines.	• understands and follows schedules/routines at home or school. • manages smooth transitions from one activity to the next (e.g., comes indoors to wash hands, to eat lunch, to listen to a story). • separates from parents easily.
c. Expresses feelings through appropriate gestures, actions and language.	• identifies emotions (e.g., says, "I'm really mad." or "The story makes me sad."). • shares happiness or success of another. • offers to help someone who is hurt. • uses pretend play to understand and respond to feelings. • controls an impulse to take an object away from another child (e.g., uses appropriate words instead of hitting).
d. Adapts to different environments.	• adjusts behavior in different settings (e.g., library, home, playground or school). • follows rules in different settings.

Teacher strategies for promoting ability to exhibit self-control:

- modeling vocabulary for expressing feelings through language.
- acknowledging and accepting children's expressions of feelings.
- engaging children in talks about how to behave in various situations.
- using literature to help children take the perspective of others.
- taking advantage of events in the classroom to explain the need for rules and to involve the children in rule making and conflict resolution.
- clearly signaling transitions through the use of music, songs, etc.
- creating and posting schedules that show the events of the day/week/etc. in a way children understand (e.g., with pictures, photos or symbols).
- establishing routines that take into account children's needs for rest, activity, play, conversation, etc.

I. Knowledge of Self

This standard refers to the child's increasing sense of belonging and participating as a member of a family and community, whether at home, school or in another setting. Exhibiting a sense of personal responsibility indicates that one is aware of one's own place in the world and of the obligations that place entails. It also involves the child's growing sense of competence and confidence that he or she is a valued and contributing member of his or her family and community.

3. Develops personal responsibility.

Indicators	**Examples** **The child ...**
a. Cares for personal and group possessions.	• carefully handles books and other objects. • takes care of toys. • puts away belongings and materials, such as clothing, toys and art supplies.
b. Begins to accept the consequences of his or her own actions.	• brings a damaged object to a parent or teacher for repair after breaking it. • admits wrongdoing (e.g., says, "I hit her because she took my toy.").

Teacher strategies to promote development of personal responsibility include:

- modeling appropriate methods for handling objects, cleaning up, etc.
- providing children opportunities to do things for themselves and/or for the class.
- discussing issues of carelessness, destruction of property, etc., as soon as they occur and inviting suggestions for resolving the problem.
- allowing children to experience the consequences of carelessness, etc. (within reason and always with safety considerations in mind), then discussing the situation with the child or children (without blaming or shaming) in order to solve the problem.
- listening to children's explanations and supporting their efforts towards reparation.
- using stories/literature to engage children in taking the perspectives of others.
- asking open-ended questions to evoke children's responses.

allow children to direct their own pretend play

II. Knowledge of Others

This standard refers to the child's growing ability to initiate and sustain relationships with adults and peers that are characterized by honesty, openness and consideration for others' feelings and views. Children who experience relationships that are respectful and cooperative respond with feelings of trust, security and confidence. These are the building blocks for understanding one's self as an individual and as a member of a community and for functioning as a valued member of one's social world.

1. Builds relationships of mutual trust and respect with others.

Indicators	Examples The child ...
a. Respects the rights of others.	• listens while others are speaking. • takes turns and follows rules. • respects the personal space of others (e.g., keeps hands to self).
b. Respects adult leadership.	• uses an adult as a resource (e.g., seeks information, assistance or advice). • follows adults' guidelines for safety in the home or classroom. • follows adults' rules for appropriate behavior in different environments. • shows interest in community workers (e.g., firefighters, police officers, dentists, doctors) and understands their roles in the community.
c. Seeks comfort and security from significant adults.	• shows an attachment or bond to an adult. • goes to an adult if he or she has a problem. • feels safe with significant adults.
d. Develops friendships.	• offers help and resources to others. • has a special friendship with one or two peers (e.g., misses them if they are apart; frequently chooses them in play). • is named as a friend or play partner by others.
e. Uses courteous words and actions.	• says "please" and "thank you" or "hello" and "goodbye" at appropriate times. • shares toys; passes items at mealtime. • waits for a turn during conversation.
f. Respects similarities and differences among people.	• notices the similarities and differences in others. • includes children with differences in play (i.e., differences such as gender, race, special needs, culture and language). • explores real-life situations through pretend play. • recognizes that different individuals have different kinds of skills and information.

Teacher strategies for supporting development of relationships of mutual trust and respect with others include:

- modeling trust, honesty and respect in dealings with children and adults.
- having class meetings to discuss events and issues, resolve problems and share celebrations and news.
- engaging the children in voting to decide questions (e.g., to determine the name of a pet).
- using literature to help children take the perspective of others and/or to facilitate problem solving.
- creating an environment where children feel safe and secure and where their feelings and views are accepted.
- modeling the vocabulary and conventions of courtesy and politeness.
- providing opportunities during the day for children to choose to work or play with particular others.
- supporting children in their efforts to resolve conflicts with others by helping them reach a mutually satisfactory resolution (rather than imposing a solution that seems "fair" to adults).
- inviting guests who are "community helpers" to talk to the children about their roles and why they do what they do.
- providing opportunities and materials for children to express their ideas, feelings and role-playing through pretend play.
- encouraging participation in group (small and/or large) games, allowing children to make up or modify rules and to resolve their own conflicts (always with safety considerations in mind).

II. Knowledge of Others

This standard signifies the child's increasing ability to participate as a contributing member of his or her family and community. It is crucial to success in school as well as in life. Learning how to negotiate and cooperate in the process of solving everyday problems helps children develop critical thinking skills. As children learn to consider the views of others, they become increasingly able to tolerate differences of opinion. In addition, children become aware of the interdependence of people in the various communities that make up their world and to appreciate the contributions of others.

2. Works cooperatively with children and adults.

Indicators	**Examples** **The child ...**
a. Participates successfully as a member of a group.	• allows others to join play and activities. • participates cooperatively in large and small group activities (i.e., is sometimes a leader and sometimes a follower). • plays cooperatively with others (e.g., takes turns when playing a game). • identifies self as a member of a group (e.g., refers to our family, our school, our team).
b. Shares experiences and ideas with others.	• engages in conversations to express his or her own ideas. • expresses self through pretend play, art, music, dance, written work and spoken language. • shares personal information.
c. Begins to examine a situation from another person's perspective.	• adopts various roles during pretend play. • expresses empathy (e.g., consoles the child who lost a game or a child who is unhappy). • adjusts plans in consideration of others' wants and needs (e.g., asks a friend if he or she would like to go first).
d. Resolves conflicts with others.	• shows an interest in fairness and established rules. • attempts to make amends (e.g., says "I'm sorry" or offers a toy). • participates in resolving conflict with adult assistance. • attempts to solve problems without adult help (i.e., negotiates or compromises).

Teacher strategies to promote ability to work cooperatively as a member of a group include:

- holding "circle time" daily and encouraging children to share their news and views, plan activities, etc.
- using class meetings and discussions to resolve issues of concern.
- engaging children in small-group work.
- providing daily opportunities for children to express themselves through art, construction, music, movement and language.
- modeling how to express one's feeling through words and tone of voice.
- taking advantage of spontaneous events in the classroom to involve children in rule making and problem solving as well as meaningful projects.
- supporting children in building relationships and friendships with peers and solving their own problems by providing time and space for hands-on activities and games.
- taking time to recognize and celebrate special events and accomplishments of individuals and the class.

ability to participate as a contributing family and community member

I. Approaches to Learning

This standard refers to the child's inquisitiveness — the active desire to learn. It relates to the child's natural tendency to explore all aspects of the environment from objects and people to ideas and customs. It is through finding the answers to their own questions that children construct knowledge. Most important, young children express their curiosity not only through asking questions but also by manipulating, acting on and experimenting with objects and by tasting, touching and taking things apart. A curious child is a child who is eager and ready to learn.

1. Shows curiosity.

Indicators	**Examples** **The child ...**
a. Expresses interest in people.	• asks about people in his or her environment. • takes an interest in others' activities. • asks others for personal information (e.g., asks, "What's your name?" or "How did you hurt your arm?").
b. Shows interest in learning new things and trying new experiences.	• explores on his or her own. • develops a personal interest (e.g., likes trains, dinosaurs, dolls, etc.). • investigates and experiments with materials. • shows an interest in how others do things.
c. Asks questions.	• uses questions to find answers. • wonders why something is the way it is.

Teacher strategies to promote curiosity include:

- providing a learning environment with a wide variety of materials for children to explore and manipulate (being careful to avoid creating an overstimulating or overwhelming situation).
- having "real" objects (that can be safely manipulated or disassembled) available for children to explore, such as typewriters, telephones, etc.
- periodically introducing new materials (and retiring those the children seem to have lost interest in) into the classroom.
- asking children open-ended questions about what they are doing, observing or thinking about.
- modeling wonderment and ways to investigate questions.
- providing a "science area" with examples of objects (e.g., shells, interesting rocks, bird nests) and/or living things (e.g., hamsters, ant farms, etc.) for the children to observe and interact with.
- encouraging children to ask questions.
- accepting children's theories and encouraging them to test them or try them out (always with safety considerations in mind, of course).
- reading aloud literature to stimulate children's interest in and curiosity about people, places, the natural world, machines, etc.
- using children's questions about spontaneous events (e.g., a construction site across the street; artifacts from a family visit to another country) to engage them in a meaningful project.
- taking children on walks to explore the natural world.

active desire to learn

I. Approaches to Learning

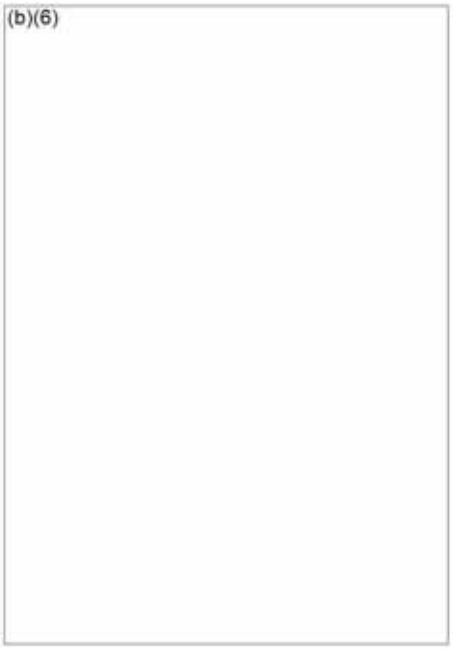
This standard refers to a child's increasing ability to exhibit a spirit of independence and sense of control over his or her choices. It also reflects the child's ability to initiate social relationships and demonstrate a growing sense of self-sufficiency and confidence in interactions with others.

2. Takes initiative.

Indicators	**Examples** **The child ...**
a. Initiates interactions with others.	• asks a friend to join in play. • joins a play activity already in progress. • participates in group activities • suggests play activities.
b. Makes decisions independently.	• selects materials for a project. • offers to help others. • does the correct thing when others do not.
c. Develops independence during activities, routines and play.	• hangs up his or her coat when coming indoors. • enjoys playing alone at times. • completes a task.

Teacher strategies to promote ability to take initiative include:

- holding class meetings where children can propose solutions for solving problems and/or resolving conflicts.
- establishing routines and engaging class helpers to manage daily tasks.
- encouraging children to participate in group (large and small) games where they can modify or make their own rules and resolve conflicts.
- giving children opportunities to make choices throughout the day (e.g., at area or center time).
- allowing children to direct their own play.
- providing easily accessible materials for children to use as they pursue their own interests or engage in personal projects.
- seeking children's suggestions for solving problems and trying them out (within the bounds of reason and safety).
- giving children responsibility for maintaining routines, classroom chores, etc.



I. Approaches to Learning

This standard refers to a child's capacity to express his or her own unique way of seeing the world as well as his or her talents. Creativity can be expressed in many ways although we commonly think of this word in association with the expressive arts. However, creativity also involves being able to deal with new situations and problems and to see things from a fresh perspective. The ability to see gaps in knowledge, to identify problems, or to extend and elaborate on ideas also contributes to one's creativity. A sense of humor is another key element of creativity — one that children, as well as adults, delight in.

3. Exhibits creativity.

Indicators	**Examples** **The child ...**
a. Tries new ways of doing things.	• completes projects differently than others (e.g., uses a novel approach in block structures, paintings, clay structures). • uses materials in a new way (e.g., blanket becomes a tent). • invents new activities or games; suggests new rules for a familiar game.
b. Uses imagination to generate a variety of ideas.	• makes up words, songs or stories. • engages in pretend play. • makes changes to a familiar story by adding actions or characters. • expresses ideas through art, construction, movement or music.
c. Exhibits a sense of humor.	• laughs when someone tells a funny story. • exaggerates a movement or statement to be funny. • makes up silly words; plays with sounds. • makes up jokes (tells simple jokes over and over).

Teacher strategies to foster creativity include:

- supplying open-ended materials (e.g., yarn, wood scraps, feathers, all sorts of paper, cardboard, pipe cleaners) for the children to explore.
- allowing children to express themselves in all kinds of art media rather than having them produce versions of teacher-directed craft projects.
- encouraging children to make up songs and stories as well as to change the words to familiar tunes and stories.
- providing a well-supplied pretend-play area and periodically introducing new materials (and retiring familiar ones) so that children can vary their play.
- arranging the classroom so that materials and supplies are easily accessible to children.
- reading aloud humorous poems and stories.
- engaging the children in singing silly songs.
- allowing the children to direct their own pretend play.
- responding to children's humor.

(b)(6)

I. Approaches to Learning

This standard refers to children's senses of faith in themselves and their own abilities; it is critical to ensuring success in learning. Confident children feel positive about themselves and their ability to do things or to adapt to changing conditions and environments. A confident child is willing to take reasonable risks, to express or defend ideas, to try new games and toys, or to engage in challenging tasks. A confident child generally feels comfortable in new settings and is able to separate from a primary caretaker.

4. Shows confidence.

Indicators	Examples The child ...
a. Expresses his or her own ideas and opinions.	• communicates likes and dislikes. • suggests a solution for a conflict or problem. • shares ideas in a group situation (e.g., with family, peers or classmates).
b. Views self as competent and has a positive self-image.	• expresses mastery of a skill (e.g., says, "Now I can swing myself!"). • asks others to view his or her creation (e.g., says, "Look at my picture!"). • contributes to family or classroom discussions. • takes pride in accomplishments.

Teacher strategies for fostering a sense of confidence include:

- holding circle time daily and encouraging children to express their ideas and opinions.
- supporting children's attempts to solve problems and resolve conflicts.
- giving children responsibility for daily tasks (e.g., distributing snacks, cleaning up).
- discussing issues with children at their eye level.
- acknowledging children's accomplishments and creations — without excessive or rote praise (e.g., saying, "You figured out that puzzle very quickly. How did you do that?").
- asking children to describe their accomplishments or creations (e.g., "You've worked very hard on that painting. Tell me about it." or "I've never seen a clay sculpture like that before. What were you thinking of when you made it?").
- supporting a child's initiation and management of class meetings to discuss issues of concern.
- showing confidence in a child's ability to try new things (e.g., saying, "I know you're a good runner. I bet you could go even faster if you tried using the scooter.").

show confidence in the child's ability to try new things

I. Approaches to Learning

This standard refers to children's capacities to fully engage in what they're doing and to meet challenges appropriate to their stages of development. The ability to persist in a task or endeavor is an important element in learning; in fact, being able to cope with frustration and failure until one has achieved one's goal is the hallmark of success in life.

5. Displays persistence.

Indicators	**Examples** **The child ...**
a. Sustains attention to a task or activity appropriate for his age.	• remains engaged in an activity (e.g., builds an extensive block building or completes playing a game). • attends to a task regardless of distractions. • works on a task over a period of time, leaving and returning to complete it (e.g., a block structure, a picture).
b. Pursues challenges.	• makes plans for an activity. • completes a project. • continues to try a difficult task (e.g., builds a complex block structure).
c. Copes with frustration.	• shows understanding when a peer accidentally knocks down his or her block structure. • can lose a game without getting upset. • persists in trying to complete a task after many attempts have failed (e.g., tying shoes, riding a bike).

Teacher strategies to foster a capacity to persist include:

- allowing children to pursue their own interests (e.g., during area time).
- arranging the classroom so children have enough space to work on a project over time.
- organizing the daily schedule so that children have large blocks of time to engage in and complete tasks and projects.
- designing the curriculum in response to children's interests.
- providing adequate supplies so that children have the resources they need to complete projects.

I. Approaches to Learning

This standard refers to the child's ability to identify questions to investigate and to figure out solutions for everyday problems. This ability is crucial for constructing knowledge as the child builds on his or her prior experiences and assimilates new information. It is how learners build a framework of understandings.

6. Uses problem-solving skills.

Indicators	**Examples** **The child ...**
a. Recognizes problems.	• states a personal problem (e.g., says, "I can't get my jacket zipped." or "I can't find the purple marker."). • anticipates the potential for problems (e.g., says, "If I climb too high, I won't be able to get down."). • recalls a previous problem (e.g., says, "I remember the last time we built the house – we had to put another block here to hold it up.").
b. Tries to solve problems.	• modifies actions based on new information and experiences (e.g., changes block structure when the tower continues to fall, moves during story time to see the book, puts on a sweater when it is cold). • changes behavior in response to another child or adult (e.g., comforts another child who is crying). • asks for help from another child or adults.
c. Works with others to solve problems.	• cooperates in making decisions with another child (e.g., plans with a peer to build a castle out of blocks, choose what game to play, or how to share materials such as toys or markers). • offers solutions to a conflict with another child. • takes turns (e.g., says, "Let's decide who goes first, second, third … .").

Teacher strategies to promote use of problem-solving skills include:

- designing curriculum based on children's interests.
- providing a variety of accessible materials for children to use as they engage in personally meaningful projects.
- using open-ended questions to support children's investigations and experiments (e.g., asking, "What could you use to make that ramp higher?" or "Is there another way to build this so that the bridge doesn't fall down?" or "Why do you think that happened?").
- providing opportunities for children to work together (i.e., in pairs or small groups).
- giving children choices in their activities and tasks.
- organizing the daily schedule so that children have sufficient time to pursue investigations and complete projects.
- reading stories aloud and asking children for their responses to situations depicted.
- engaging the children in playing group games, especially math games.
- holding class meetings and discussions to raise and resolve issues of concern.

ability to identify questions
to investigate and to figure out
solutions for everyday problems

Creating an Environment to Support Children's Social and Emotional Development

The classroom environment is a critical component in fostering children's social and emotional development. How the room is arranged, how routines and schedules are designed, how classroom rules are established and maintained — all of these elements contribute to building a strong learning community where children feel welcome, safe and eager to learn.

Room arrangements should include a large space for group meetings but also include spaces where small groups of children can work together as well as a quiet nook or corner (or two). Having a variety of accessible materials for children to use as well as a number of interesting "centers" or areas (such as a pretend-play or housekeeping area; a block area; a center for math games, manipulatives and puzzles; an art area) engages children's interest. Allowing children to choose their activities (while providing satisfying alternatives if something proves to be too popular) not only supports their learning but also helps reduce conflicts. Designing a schedule that allows children sufficient time to pursue their interests and arranging the room so that noisy areas are separated from quiet ones also helps ease management concerns. In addition, routines that involve children in maintaining their mutual space give them a sense of ownership and investment in their classroom community. Just as adults do, children thrive in an environment that they feel they have helped design to meet their needs — needs for privacy and companionship, engagement and rest — and where they feel safe and valued as a contributing member of a community.

Communicating With Parents/Families

Parents are, of course, our most important partners as we support the social and emotional development of the children in our care. Open, trusting and respectful communication with families is essential in order for the child to have a smooth transition between home and school. Sharing information about rules and routines, how conflicts are resolved and how issues are dealt with is very important, especially because every family will have its own way of dealing with discipline and other issues of concern. There are many resources for educators interested in communicating with families, particularly on these issues. Practical Parenting Partnerships and the Parents as Teachers Program are wonderful resources; contact your school district for more information about these exemplary programs.

Resources

Books:

Bailey, B. (2000). *Easy to love, difficult to discipline: The 7 basic skills for turning conflict into cooperation*. New York: William Morrow.

Bailey, B. (2000). *I love you rituals: Activities to build bonds and strengthen relationships with children* (rev. ed.). Oviedo, FL: Loving Guidance.

Bailey, B. (1997). *There's gotta be a better way: Discipline that works!* (Rev. ed.). Oviedo, FL: Loving Guidance.

Bredekamp, S., and Copple, C. (Eds.). *Developmentally appropriate practice in early childhood programs* (rev. ed.). Washington, DC: National Association for the Education of Young Children.

Bronson, M.B. (1995). *The right stuff for children birth to 8: Selecting play materials to support development*. Washington, DC: National Association for the Education of Young Children.

Carlsson-Paige, N., and Levin, D.E. (2000). *Before push comes to shove: Building conflict resolution skills with children*. St. Paul, MN: Redleaf Press.

Derman-Sparks, L., and the A.B.C. Task Force. (1989). *Anti-bias curriculum: Tools for empowering young children*. Washington, DC: National Association for the Education of Young Children.

DeVries, R., and Zan, B. (1994). *Moral classrooms, moral children*. New York: Teachers College Press.

Diffily, D., and Morrison, K. (Eds.). (1996). *Family-friendly communication for early childhood programs*. Washington, DC: National Association for the Education of Young Children.

Evans, B. (2002). *You can't come to my birthday party!: Conflict resolution with young children*. Ypsilanti, MI: High/Scope Press.

Feldman, J. (1995). *Transition time: Let's do something different!* Beltsville, MD: Gryphon House.

Gartrell, D.J. (2000). *What the kids said today: Using classroom conversations to become a better teacher*. St. Paul, MN: Redleaf Press.

Greenman, J. (1988). *Caring spaces, learning places: Children's environments that work*. Redmond, WA: Exchange Press.

Greenman, J. (1998). *Places for childhoods: Making quality happen in the real world*. Redmond, WA: Exchange Press.

Hopkins, S. (Ed.). (1999). *Hearing Everyone's Voice: Educating young children for peace and democratic community*. Redmond, WA: Exchange Press.

Isbell, R., and Exelby, B. (2001). *Early learning environments that work*. Beltsville, MD: Gryphon House.

Kamii, C., and DeVries, R. (1980). *Group games in early education: Implications of Piaget's theory*. Washington, DC: National Association for the Education of Young Children.

Katz, L.G., and McClellan, D.E. (1997). *Fostering children's social competence: The teachers's role*. Washington, DC: National Association for the Education of Young Children.

Kaiser, B. and Rasminsky, J.K. (1999). *Meeting the challenge: Effective strategies for challenging behaviours in early childhood environments*. Ottawa, Ontario: Canadian Child Care Federation.

MacDonald, S. (1996). *The portfolio and its use, book II: A road map for assessment*. Little Rock, AR: Southern Early Childhood Association.

Nelsen, J., and Erwin, E. (2002). *Positive discipline for childcare providers: A practical effective plan for every preschool and daycare program*. Roseville, CA: Prima Publications.

Schiller, P., and Bryant, T. (1998). *The values book: Teaching 16 basic values to young children*. Beltsville, MD: Gryphon House.

Stone, J.G. (2001). *Building classroom community: The early childhood teacher's role*. Washington, DC: National Association for the Education of Young Children.

Zavitkovsky, D., Baker, K.R., Berlfein, J.R., and Almy, M. (1986). *Listen to the children*. Washington, DC: National Association for the Education of Young Children.

Web Sites:

- Association for Childhood Education International: www.acei.org
- Center for Innovations in Education: education.missouri.edu/SPED/cise
- Children's Defense Fund: www.childrensdefense.org
- Connections Newsletters: www.canr.uconn.edu/ces/child
- Council for Exceptional Children, Division for Early Childhood: www.dec-sped.org/positionpapers.html
- Early Childhood Educators' and Family Web Corner: users.stargate.net/~cokids
- Early Childhood Education On Line: www.ume.maine.edu/eceol
- Earlychildhood NEWS: www.earlychildhoodnews.com
- ERIC/EECE Clearinghouse on Elementary and Early Childhood Education: ericeece.org/pubs/digests/2001/mcclel01.html
- Everything for Early Childhood Education Preschool-Grade 2: www.edupuppy.com
- Licensing of Child-Care Facilities in Missouri: www.dhss.mo.gov/childcare
- National Association for the Education of Young Children (NAEYC): www.naeyc.org
- National Child Care Information Center: www.nccic.org
- National Network for Child Care: www.nncc.org/Child.Dev/soc.emot.dev.5y6y.html
- PBS for Early Care Providers: www.pbs.org/wholechild/providers/index.html
- Project Construct National Center: www.projectconstruct.org
- Regents' Center for Early Developmental Education: www.uni.edu/coe/regentsctr/

Magazines:

- *The Buzz: Cool Ideas for Child Care Providers* (4 issues per year)
  Center for Innovations in Special Education
  152 Parkade Plaza, 601 Business Loop 70 W
  Columbia MO 65211-8020
  1-800-976-2473
- *Early Childhood News* (6 issues per year)
  330 Progress Road
  Dayton OH 45449
  1-800-607-4410
- *Scholastic Early Childhood Today* (8 issues per year)
  P.O. Box 54814
  Boulder CO 80322-4814
  1-800-544-2917
- *Young Children* (6 issues per year)
  National Association for the Education of Young Children (NAEYC)
  1509 16th Street, NW
  Washington DC 20036-2460
  1-800-424-2460

NAEYC Brochures for Parents: (see above address for ordering)

- *Helping children learn self-control: A guide to discipline* — No. 572
- *Love and learn: Positive guidance for young children* — (Honig, A.S.) No. 528
- *Play is FUNdamental* — (McCracken, J.B.) No. 576 (No. 566 in Spanish)
- *Ready to go: What parents should know about school readiness* — No. 554
- *So many goodbyes: Ways to ease the transition between home and groups for young children* — (McCracken, J.B.) No. 573
- *Teaching young children to resist bias: What parents can do* — (Derman-Sparks, L., Gutierrez, M., and Day, C.B.) No. 565 (No. 564 in Spanish)

Missouri Early Learning Standards for Physical Development, Health and Safety

Content Component	Process Standards
I. Physical Development	1. Uses gross motor skills with purpose and coordination. 2. Uses fine motor skills with purpose and control. 3. Responds to sensory input to function in the environment.
II. Health	1. Practices healthy behaviors.
III. Safety	1. Practices safe behaviors.

children flourish in a learning community where they can directly act on objects and interact with people

Organization

The standards cover the broad scope of child development and are organized by:

I. **Content Component** — the specific content area to be addressed, such as physical development, health or safety.

II. **Process Standards** — identifiable competencies or capabilities in the process of physical development, health and safety, such as using fine motor skills with purpose and control or practicing healthy behaviors.

III. **Indicators** — observable milestones in the development of competencies, such as controlling body movements and showing independence in personal hygiene.

IV. **Examples** — specific behaviors children may exhibit in their development such as balancing on one foot or engaging in active play.

This structure provides us with an accessible way to see how the standards fit into our curriculum and teaching practices.

Introduction for Teachers

This guide, along with the *Parent Handbook*, is a companion piece to the *Missouri Early Learning Standards for Physical Development, Health and Safety*. It is intended for all adults who work with preschool-age children and their families — teachers, caregivers and/or parent educators. The guide explains the standards and contains practical suggestions for creating engaging, developmentally appropriate learning communities where each child's physical development, health and safety is fostered.

Why is it important to have such standards? In Missouri, the Outstanding Schools Act of 1993 called together a group of master teachers, parents and policy-makers from around the state. The Show-Me Standards were the result of that group's work. Those standards are designed for students in kindergarten through grade 12 and serve to ensure that graduates of Missouri's public schools have the knowledge, skills and competencies to lead productive, fulfilling and successful lives.

However, we all realize that the foundations for learning are laid well before a child enters kindergarten. Research tells us that the early years provide crucial opportunities for educators and caregivers to influence children's growth and development. If our goal is that every child enter kindergarten ready to learn and succeed, pre-kindergarten educational standards can provide us with shared understandings about the competencies critical for this to occur. In addition, pre-K standards provide a direct link to the Show-Me Standards, so we know that we are preparing children for the high expectations they will encounter as they progress through school.

To this end, the *Missouri Early Learning Standards for Physical Development, Health and Safety* describe the competencies most children should demonstrate by the time they enter kindergarten. They represent a shared set of expectations for preschool children that were developed by drawing upon current research about how young children develop and learn. It is important to keep in mind, however, that children develop and learn in their own unique ways. While research demonstrates that these standards are appropriate for most children who are about to enter kindergarten, our responsibility as educators is to assess where each child is on the developmental continuum and build on what that child knows and can do.

Educators can determine this only through ongoing observational assessment. This guide illustrates some indicators that teachers can reliably assess to show each child's progress over time. This data can be used to plan meaningful, engaging learning experiences that promote both physical development, health and safety and active, sustainable learning communities. You will also find information about creating supportive environments and partnering with parents and families to promote safe, healthy, active living and an enthusiasm for learning. A list of helpful resources is included.

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I. Physical Development

Children love to move and physically explore their environments. This standard refers to children's abilities to manipulate their bodies and large muscles in increasingly purposeful and skillful ways.

1. Uses gross motor skills with purpose and coordination.

Indicators	Examples The child ...
a. Moves from one point to another.	• walks, runs, jumps, gallops and hops on one foot.
b. Controls body movements.	• bends, stretches, turns and twists body parts. • rolls body in one direction. • "stops" or "freezes" then changes directions while playing a game. • balances on one foot (on a balance beam or variety of surfaces).
c. Uses large muscle movements to manipulate objects.	• bats at a ball or balloon with hands or equipment. • throws, kicks, bounces and catches a ball. • rides a tricycle/bicycle or wheeled toy with pedals.

Teacher strategies to promote children's gross motor skills include:

- providing ample time and space for vigorous outdoor and indoor play.
- supplying a variety of playground equipment (e.g., swings, slides, climbing structures, tricycles, wagons, large blocks) for children to actively explore. For safety reasons, playground surfaces should be "soft" (i.e., composed of loose fill such as mulch or pea gravel or with rubber-like material).
- supplying a variety of indoor equipment (e.g., balance boards, large blocks, large foam wedges, ramps, crawl-through shapes, hoops, balls, foam or plastic bats, paddles) for play that increases gross motor skills.
- constructing a mini obstacle course (e.g., with blocks, ramps, balance beams, crawl-through shapes) for children to negotiate.
- providing space and equipment (e.g., pendulums, beanbag targets, plastic bowling balls and pins) for aiming activities.
- engaging children in activities that involve gross motor skills such as imitating the movements of insects (e.g., butterflies, beetles) or animals (e.g., elephants, lions, puppies).
- scheduling daily opportunities for movement experiences in addition to indoor and/or outdoor free play. These experiences need not be whole group activities; they may be short (5- to 10-minute) activities, arranged in various "stations" around the classroom or playground, that children may choose to participate in according to their interests and skill levels.
- planning movement experiences that allow children to participate according to their abilities (e.g., encouraging children to jump as high as they can or to dance expressively to music). These activities should be open-ended and experimental rather than competitive.
- adapting play equipment and the classroom environment so that all children, including those with special needs, can participate in movement experiences.
- engaging the children in movement activities accompanied by music or to a rhythm (e.g., marching, dancing, clapping, stomping, swaying).

plan movement experiences that allow children to participate according to their abilities

I. Physical Development

During the preschool years, children begin to build their fine motor skills and their hand strength. Individual children at this age exhibit a wide range of abilities with regard to fine motor skills. However, fine motor activities can be a source of frustration if children are directed to perform tasks (e.g., practicing writing letters and numbers for extended periods) that they are not ready for developmentally. Rather, supporting children's fine motor skill development during the preschool years should focus on providing children with materials to explore and manipulate during play or through open-ended learning experiences such as sorting or art activities. As children engage in these activities, they build the fine motor skills they will need in kindergarten for handwriting, etc.

2. Uses fine motor skills with purpose and control.

Indicators	Examples The child ...
a. Performs fine motor tasks.	• squeezes wet sponges, a glue bottle or a catsup bottle. • works with play dough or molds clay. • uses hands and fingers to open clothespins, uses staplers, uses a paper punch, etc.
b. Uses fingers and hands to accomplish fine motor tasks.	• fastens buttons, zips zippers, fastens fasteners or snaps snaps on clothing. • strings beads, macaroni or "O"-shaped cereal. • sorts small shapes in a shape sorter. • builds with small connecting blocks. • laces shoes or lacing cards. • holds paper with one hand and cuts with the other.
c. Uses tools in a functional manner.	• uses paintbrushes, scissors and eating utensils. • holds writing tools with fingers to draw or write. • uses woodworking tools with supervision (e.g., hammer, saw).
d. Exhibits coordination of facial muscles.	• attempts to wink an eye. • blows bubbles through a bubble wand or blows out candles. • tries to whistle. • imitates or makes silly faces. • speaks clearly.

Teacher strategies to support children's development of fine motor skills include:

- arranging the daily schedule so that children have sufficient time to deeply engage in activities. Teachers should also model activities, invite children to try new activities and engage in play with the children.
- supplying the math center with various manipulatives and engaging the children in sorting and/or counting activities.
- arranging a well-equipped writing center (e.g., with pencils, alphabet letters, staplers, tape, different-sized markers, various kinds of paper including notepads, receipts or order forms) where children can explore and experiment with writing.
- setting up a woodworking or construction area with various tools for the children to work with under supervision.
- supplying a sand and/or water table with various pieces of equipment (e.g., measuring cups, funnels, scales, scoops, sponges) for the children to use.
- providing a well-equipped art area and plenty of opportunities for children to experiment with art materials (e.g., paint, play dough, scissors, glue, materials to make collages). The focus should be on children making their own creations rather than assembling teacher-made "crafts." In this way, children have the opportunity to express themselves and solve problems; in addition, they are not so concerned with something not looking "the same" as everyone else's, which is an expectation that can lead to frustration.
- providing a game and/or puzzle center.
- arranging a well-equipped block area, out of the way of classroom traffic, with enough space for children to build substantial projects. Placing this area near the dramatic play area can also encourage more complex play.
- supplying the classroom computer with appropriate software for the children to explore.
- serving snacks or meals "family style" so that children have the opportunity to pour their own drinks, serve themselves and use eating utensils.
- engaging the children in finger plays, songs, rhythm activities and stories that involve movement, making faces, imitating animals, etc.
- supporting children's efforts to dress themselves, brush their teeth, clean up, etc.

I. Physical Development

This standard refers to the child's ability to take in information from the environment through his senses. Children need to develop their perceptual abilities (e.g., touch, taste, sight, smell, hearing) and learn to interpret and integrate this sensory information. This will help children develop a sense of how their bodies relate to others and the physical environment. As their sensory awareness becomes more refined, they will exhibit their own preferences and learn important safety concepts.

3. Responds to sensory input to function in the environment.

Indicators	**Examples** **The child ...**
a. Exhibits sensory awareness.	**Touch** • identifies hidden objects in a "feely" bag by touch. • participates in messy play activities (e.g., finger painting, working with clay or play dough). **Hearing** • follows verbal directions while playing games such as Simon Says. • responds to environmental sounds (e.g., attends when name is called, investigates unusual noises such as a siren or breaking glass). **Sight** • finds details in illustrations in books (e.g., *I Spy, Each Peach Pear Plum, Where's Waldo?*). • arranges objects by color, size, texture and/or shape. • aims a ball or beanbag at a target. • follows a line with a finger or pencil. **Smell** • says, "This marker smells likes grapes." • says, "I smell the popcorn." **Taste** • licks ice cream on a cone. • remarks that a food tastes good.
b. Exhibits body awareness.	• identifies body parts through finger plays and songs (e.g., *Hokey Pokey; Head, Shoulders, Knees and Toes; Where Is Thumbkin?*). • creates different shapes with his body (e.g., makes a circle with fingers, makes a bridge with another child). • imitates animals with movement of body parts (e.g., uses arms for wings, slithers like a snake).
c. Exhibits spatial awareness.	• moves body forward, backward, sideways, up, down. • plays games involving movement and directions (e.g., Duck, Duck, Goose; Tag; Hide and Seek; Mother, May I?). • moves through a room without bumping into people or furniture. • negotiates an obstacle course. • puts puzzles together or fits blocks into a defined space.
d. Exhibits temporal awareness.	• moves his body to a rhythm (e.g., clapping, stomping, swaying, marching). • adjusts body movements to the tempo (e.g., fast, slow, start, stop). • kicks a rolling ball. • catches a ball. • follows a sequence or pattern in songs or finger plays (e.g., *B-I-N-G-O; The Itsy, Bitsy Spider; Where Is Thumbkin?*).

Teacher strategies to support development of sensory awareness include:

- providing a sensory table stocked with various materials to explore, and regularly exchanging the materials and introducing new ones.
- engaging children in singing, rhyming or other word games that focus on language sounds.
- encouraging children to investigate and imitate sounds in the environment.
- providing children with opportunities to play with musical instruments or to make their own instruments with objects in the environment.
- asking children to find details in book illustrations during story time.
- providing children with opportunities to make collections and sort and classify objects by color, size, shape, etc.
- engaging children in aiming games (e.g., throwing beanbags at a target, playing ring toss, bowling).
- encouraging children to identify smells (e.g., examining different fruits and discussing their smells; playing a guessing game to identify items by smell).
- introducing cooking experiences into the classroom so children can touch, taste and smell various kinds of food.
- conducting talks about food preferences (i.e., tastes they like or dislike).
- playing games that involve naming or using parts of the body.
- engaging children together in music and movement experiences so that they can develop a sense of how their bodies move in relation to others.
- engaging children in outdoor games that involve equipment (e.g., bouncing balls, hitting a ball with a bat) and movement experiences where they toss and catch things (e.g., scarves, balls, feathers).
- creating a small obstacle course for children to explore; the course could include objects to walk over, climb on or crawl through.
- engaging children in rhythm games or games where they need to follow directions or perform a sequence of movements.

II. Health

Children don't necessarily develop healthy behaviors on their own. Rather, these behaviors need to be taught and supported by caring adults. This standard reflects behaviors we would like to see in preschool children and goals we can work toward in our programs.

1. Practices healthy behaviors.

Indicators	Examples The child ...
a. Shows independence in personal hygiene.	• manages toileting. • washes and dries hands. • covers nose and mouth when sneezing. • uses a tissue.
b. Chooses to participate in daily physical activity.	• plays on/with outdoor equipment (e.g., slides, balls, wheeled toys). • engages in active play (e.g., running, jumping, chasing, moving to music, playing with pets). • goes on walks with family members. • joins in indoor or outdoor games (e.g., musical games, Tag, Drop the Handkerchief).
c. Exhibits body strength and endurance.	• climbs a ladder on the slide. • pours liquid from a small pitcher. • maintains her hold while hanging from a bar. • engages in activities such as duck walks, crab walks, frog leaps, bear walks or wheelbarrow walks.

Teacher strategies to support the development of healthy behaviors include:

- modeling hygienic behaviors and giving simple explanations of why we do them (e.g., saying, "I always wash my hands before I eat because I don't want to get germs in my food.").
- making sure the classroom is adequately supplied with tissues, toilet paper, paper towels, etc., and that these items are accessible to children.
- demonstrating sensitivity to children's needs for toileting and having a toileting routine that allows for children's independence and self-regulation.
- showing enthusiasm for daily physical activity and engaging with the children in active play.
- fitting in daily periods of vigorous indoor and outdoor play.
- engaging children in conversations about healthy behaviors and their importance.

III. Safety

Like healthy behaviors, safe behaviors need to be taught and supported by adults. It is our responsibility as adults with children in our care to make sure that the environment is safe and that children are taught basic procedures to keep themselves from harm. The following indicators describe behaviors we would like to see preschoolers exhibit with the guidance of caring adults.

1. Practices safe behaviors.

Indicators	Examples The child ...
a. Listens to and follows adult directions during emergencies.	• participates in emergency drills (e.g., fire, intruders, natural disasters) at school and home.
b. Follows vehicle, street and public safety.	• uses appropriate car restraints. • stays with an adult when crossing the street, in parking lots and/or in public places. • practices bike safety (e.g., wears a helmet, rides in a safe place). • stays away from machinery (e.g., lawn mower, power tools, farm equipment).
c. Recognizes personal danger.	• knows that objects such as weapons, syringes, matches, etc., can be dangerous and should not be touched. • displays caution around water, fire, unsafe heights and unfamiliar people or animals. • knows not to eat unknown substances such as medicines, poisons, household cleaners, etc.
d. Knows how and when to seek help.	• asks an adult for help when made to feel uncomfortable or unsafe by another person. • calls for help during emergencies (e.g., shouts for an adult, asks an adult for help in an emergency, calls 9-1-1). • recognizes trusted adults (e.g., police officers, firefighters).

Teacher strategies to promote safe behaviors in children include:

- modeling and discussing the importance of safe behaviors (e.g., saying, "I always wear my seat belt when I'm in the car. Why do you think that's important?").
- regularly conducting emergency drills and fire drills with the children regularly and making sure they are familiar with emergency procedures.
- reading stories to the children that involve safety issues and/or the roles of police officers, firefighters, etc., and discussing these issues with the children.
- inviting police officers, firefighters, animal control personnel and/or veterinarians into the classroom to explain their roles.
- teaching children basic safety procedures (e.g., how to call for help; not to touch sharp objects, weapons or syringes; what to do if an adult makes them uncomfortable) and role playing these procedures with them.
- including items (e.g., hard hats, bike helmets, doll car seats) that reflect safe behaviors or roles in the pretend-play area.
- teaching children the basic symbols (e.g., poison symbol, EXIT sign) for danger and safety.

read stories to the children that involve safety issues or the roles of police officers and firefighters

Creating an Environment That Promotes Physical Development, Health and Safety

Physical Development

It is important to recognize that supporting children's physical development has as important a place in the curriculum as does supporting cognitive and language development. Thoughtfully planned movement experiences, along with periods of vigorous outdoor and indoor activities, should be a part of each day's schedule. Often, however, preschool teachers feel challenged in this area due to lack of space and/or resources. There are creative ways to overcome these challenges. If space is an issue, rather than having the whole group engage in physical activities, these activities can be designed for small groups or individuals at stations around the room or playground. Equipment can be fashioned from recyclable materials (e.g., empty 2-liter soda bottles can serve as bowling pins, a beanbag target can be made from a cardboard box, assorted cardboard boxes covered with contact paper can serve as blocks). Families are often wonderful resources as well. Many families are more than willing to donate time and/or materials to create or equip a playground or to contribute used games and sports equipment to the classroom.

Health and Safety

The children in our care deserve environments that are safe and encourage healthy living. It is up to us as adults to make sure our classrooms comply with safety and health standards and that children are properly supervised at all times. That said, it would indeed be a perfect world if accidents never happened. Unfortunately, this is not the case, so we must continually model and exhibit how to practice safe and healthy behaviors so that children can observe and imitate these behaviors and can know what to do if there is an accident or emergency. In addition, we can encourage children to practice these behaviors independently at home and at school.

It is also important to model healthy living practices and teach children the importance of good hygiene, a healthy diet and the need for exercise. Children often come to us with strong — and limited — food preferences. Introducing a variety of healthy foods and allowing children to choose among them or involving children in cooking experiences with healthy foods can help expand children's ideas of acceptable foods. A daily routine that balances children's needs for periods of activity and rest is important, and so is helping them recognize their own physical reactions (e.g., ask, "How do you know when you are getting tired?"). Maintaining a social environment in the classroom that supports children being able to meet their own physical needs (e.g., getting a tissue to blow their noses, being able to wash and dry their hands when they feel they need to) also helps promote children's independent practice of healthy behaviors.

Involving Parents and Families

Teachers and parents/families together can be a powerful force to promote children's health, safety and physical development. However, this can only happen when there is open and trusting communication between teachers and families, particularly when it comes to health and safety. Teachers can provide parents with resources concerning safety and health issues (e.g., posting a notice on the class bulletin board that the fire department will be installing child car seats on a certain date, or sending home leaflets about good nutrition, vaccination programs, etc.). Offering suggestions for physical activities that parents and children can do together or sponsoring events such as a family picnic or game night is another way to involve parents. Health and safety are everyone's concern, and open, respectful communication with parents and families can go a long way to furthering these goals.

Resources

Books and Articles:

Bersma, D., et al. (2003). *Yoga games for children: Fun and fitness with postures, movements, and breath.* Alameda, CA: Hunter House.

Bredekamp, S., and Copple, C., editors. (1997). *Developmentally appropriate practice in early childhood programs.* Rev. ed. Washington, DC: National Association for the Education of Young Children.

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Frost, J.L., Wotham, S.C., and Reifel, S. (2001). *Play and child development.* NJ: Prentice Hall.

Gallahue, D.L. (1995). "Transforming physical education curriculum." *In Reaching Potentials: Transforming early childhood curriculum and assessment, vol. 2.* S. Bredekamp and T. Rosegrant, editors. 125-44. Washington, DC: National Association for the Education of Young Children.

Kern, P., and Wolery, M. (2002). "The sound path: Adding music to a child care playground." *Young Exceptional Children.* 5 (3): 12-20.

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Pica, R. (2000). *Moving & Learning Series: Preschoolers and kindergarteners.* Albany, NY: Delmar.

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Rivkin, M.S. (1995). *The great outdoors: Restoring children's right to play outside.* Washington, DC: National Association for the Education of Young Children (NAEYC).

Sanders, S. (1992). *Designing preschool movement programs.* Champaign, IL: Human Kinetics.

Sanders, S. (2002). *Active for life: Developmentally appropriate movement programs for young children.* Washington, DC: NAEYC.

Staley, L., and Ortman, P.A. (2000). "Red Rover, Red Rover, it's time to move over." *Young Children.* 55 (1): 72.

Sutterby, J.A., and Frost, J.L. (2002). "Making playgrounds fit for children and children fit on playgrounds." *Young Children.* 57 (3): 34-39.

Sweet, J.E., and Jacobson, M. (2001). *365 Activities for fitness, food, and fun for the whole family.* New York, NY: McGraw-Hill.

Torbert, M., and Schneider, L.B. (1992). *Follow me too: A handbook of movement activities for three- to five-year-olds.* New York, NY: Addison-Wesley/Pearson.

Wardel, F. (2000). "Supporting constructive play in the wild: Guidelines for learning outdoors." *Child Care Information Exchange.* 133: 26-30.

Weikart, P.S. (2002). *Movement in Steady Beat: Activities for Children Ages 3 to 7.* Ypsilanti, MI: High/Scope Press.

Wellhousen, K. (2001). *Outdoor play, everyday: Innovative play concepts for early childhood.* Albany, NY: Delmar.

Children's books:

Physical Development: *A Picture Book of Jesse Owens* — David A. Adler and Robert Casilla; *Each Peach Pear Plum* — Allan Ahlberg and Janet Ahlberg; *My Five Senses* — Aliki; *My Hands* — Aliki; *Barn Dance* — John Archambault, Ted Rand and Bill Martin Jr.; *Here Are My Hands* — John Archambault, Ted Rand and Bill Martin Jr.; *Moondance* — Frank Asch; *Clifford's Sports Day* — Norman Bridwell; *Hand Rhymes* — Marc Tolon Brown; *Making Faces* — Nick Butterworth; *From Head to Toe* — Eric Carle; *The Very Quiet Cricket* — Eric Carle; *Clap Your Hands* — Lorinda Bryan Cauley; *Parade* — Donald Crews; *Snow Dance* — Lezlie Evans and Cynthia Jabar; *Where's Waldo?* — Martin Handford; *Is it Rough? Is it Smooth? Is it Shiny?* — Tana Hoban; *Color Dance* — Ann Jonas; *The Lot at the End of My Block* — Kevin Lewis and Reg Cartwright; *Rhinos Who Play Baseball* — Julie Mammano; *This Is My Body* — Gina Mayer and Mercer Mayer; *Five Little Monkeys* — David Melling; *Clang, Boom, Bang* — Jane Belk Moncure and Viki Woodworth; *Benny's Big Bubble* — Jane O'Connor and Tomie dePaola; *Bearobics: A Hip-Hop Counting Story* — Victoria Parker, Emily Bolam and Vic Parker; *The Ear Book* — Al Perkins, Dr. Seuss and Bill O'Brian; *Shake My Sillies Out* — Raffi and David Allender; *What Noises Can You Hear?* — Hannah Reidy and Emma Dodd; *Morgan Plays Soccer* — Anne Rockwell and Paul Meisel; *The Body Book* — Shelly Rotner and Steve Calcagnino; *Jump Rope Magic* — Afi-Odelia Scruggs and David Diaz; *The Eye Book* — Dr. Seuss, Theo. Lesieg and Joseph Mathieu; *The Itsy Bitsy Spider* — Iza Trapani; *The Farmer in the Dell* — Alexandra Wallner; *Hop Jump* — Ellen Stoll Walsh; *Can You See What I See?* — Walter Wick; *Piggies* — Audrey Wood and Don Wood.

Health: *The Very Hungry Caterpillar* — Eric Carle and Leiggi; *Jamberry* — Bruce Degen; *Bread and Jam for Frances* — Russell Hoban and Lillian Hoban; *The Checkup* — Helen Oxenbury; *Gregory, the Terrible Eater* — Mitchell Sharmat, Ariane Dewey and Jose Aruego.

Safety: *I'm Safe! At the Mall* — Wendy Gordon and Paul Gordon; *Dinosaurs Beware: A Safety Guide* — Stephen Marc and Krensky Brown; *Fireman Small* — Wong Herbert Yee.

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Core Competencies & Standards

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Phone: 573-751-2361 Fax: 573-751-6635 Information Center: (800) 473-6757
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Table of Contents

Introduction

The Curriculum Alignment Initiative

The Missouri Department of Higher Education (MDHE) established the Curriculum Alignment Initiative (CAI) in 2007 to develop entry- and exit-level competencies for beginning general education coursework in seven disciplines. Curriculum alignment is intended to smooth pathways for students entering into and progressing through college. It will improve the college readiness of high school students by defining what it means to be college ready, and facilitate transfer of entry-level collegiate courses when students move from one institution to another. Over 400 secondary and postsecondary faculty and administrators collaborated to develop more than 800 individual competencies.

Entry- and Exit-level competencies were developed for the following disciplines:

- Arts and Humanities
- Engineering and Technology
- English and Communications
- Foreign Languages
- Mathematics
- Sciences
- Social Sciences

Each disciplinary workgroup was charged with identifying the first general education courses in their discipline and developing broad entry- and exit-level course competencies. The CAS was charged with coordinating the work of the seven disciplinary groups and identifying policies and procedures to ensure full implementation by public colleges and universities.

Curriculum Alignment Vision

Collaboratively develop a competencies model for beginning-level general education that ensures student preparedness for collegiate-level coursework and portability of beginning general education course credit among Missouri postsecondary institutions.

Competencies Model

For students to be successful in collegiate-level coursework, they must master a set of competencies that prepares them to learn in the college setting. To realize this ideal, a major paradigm shift was necessary.

There were several steps involved in shifting to an effective competencies model:

1. Articulating implicit expectations for students entering into and exiting from higher education courses. By establishing clearly expected norms, expectations will be raised for students who aspire to enter college.
2. Linking the competencies to assessment, ensuring that the CAI work does not simply end up on a shelf.
3. Identifying policy implications in key areas (e.g. dual credit; remediation/developmental education; transfer policies) to reinforce policy alignment.
4. Stipulating agreed-upon implementation schedules for competencies standards as well as any related policy revisions, for a smooth transition.

Assumptions

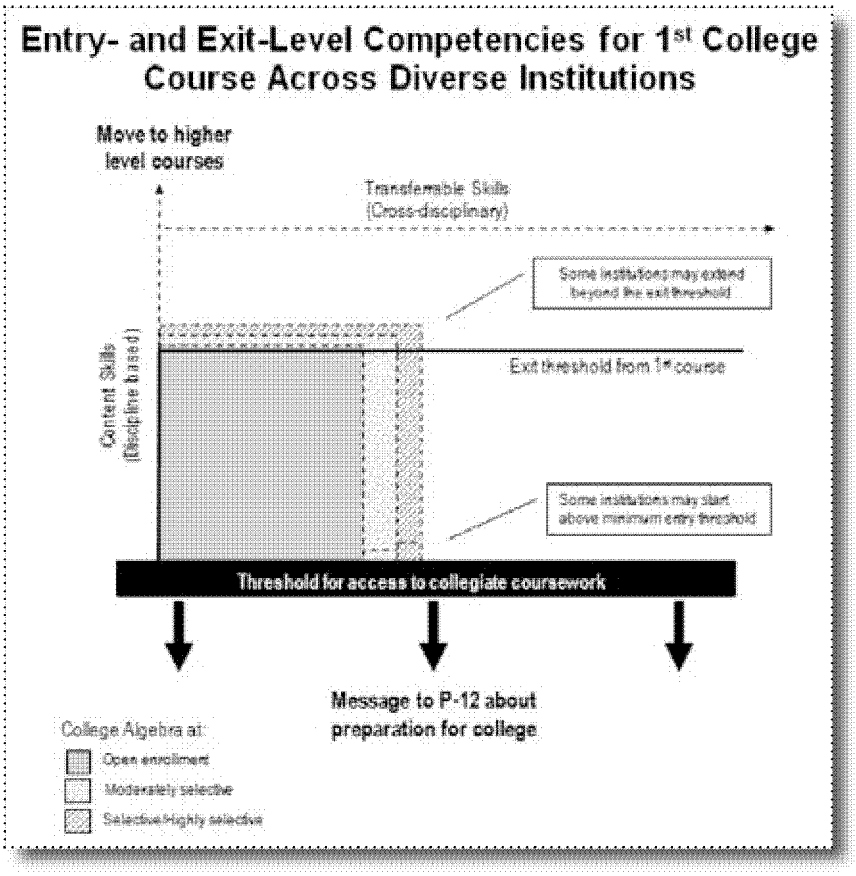
The process of shifting to a competencies model approach was based on several important underlying assumptions.

- This process would undertake a fundamental shift of multiple dimensions, (e.g. standards, curriculum, assessment, and policy) as well as having an impact across the P-20 continuum and its constituents (e.g. K-12, postsecondary, policy makers, administrators, educators, students, and families).
- Genuine systems change would take a significant time investment, but realistic timelines would be necessary.
- Mastery of entry-level competencies would not be adequate for many students who aspire to professional careers, especially in mathematics, engineering, technology and sciences (METS). In many fields, a basic level of preparation may be neither desirable nor sufficient for preferred institutional admission, persistence, timely completion and successful entry into a profession.
- Delivery modes, while important, are outside the realm of CAI to dictate instruction at the institutional level; a balance between content and instructional practice should be maintained for optimal student learning.
- The CAI should be a dynamic model that will be continually updated for currency and relevancy.

Introduction

Relation to Institutional Selectivity

Admissions selectivity categories at Missouri public institutions vary across the state from open enrollment to highly selective institutions. Institutions maintain the right to choose both their level of selectivity based on institutional mission and purpose and develop curriculum suitable to their student body. This tiered admission selectivity provides a balanced public higher education system which serves a diverse group of entering students. There is, however, collective responsibility across public postsecondary institutions to send consistent and forceful messages to students in the pipeline about what is necessary in preparation for college. While entry and exit points for a course may differ slightly depending upon the preparation levels of entering students, as a result of this work those in the pipeline will have a much better understanding of minimum thresholds necessary for access to collegiate work. Some students may in fact start at a different level and bypass that first course completely. Developing a common framework for beginning general education courses will also ensure the transferability of these courses across collegiate-level institutions.



By putting multiple institutions at the table simultaneously, CAI is looking for commonality on minimal thresholds. At the same time, it seeks to provide institutional flexibility to make local decisions about placement of both under prepared and prepared students. The diagram below is presented as a graphic illustration of an operational conceptualization representing the way the process will work.

The thick black line at the bottom of the diagram represents a dividing line between under prepared and prepared students by establishing minimal thresholds that must be met in order to proceed to collegiate level courses. The down arrows represent consistent messages to K-12 students. Those who are unable to demonstrate minimal competencies as high school graduates would be placed in developmental courses to address deficiencies.

Students who enter above the minimal threshold would undergo placement decisions by the local institution depending on their level of preparation. The two axes in the diagram represent the type of competencies that students would master in their first course in the discipline. The vertical axis represents content-based skills in a particular discipline, while the horizontal axis denotes those transferable skills that are acquired across the disciplines, such as study skills or critical thinking.

Mathematics is used for illustrative purposes in the diagram. The three boxes in the diagram are intended to represent a college algebra course at institutions with different admission selectivity (solid for open enrollment, dotted for moderately selective and striped for selective and highly selective). It is important to note that each institution, including open enrollment institutions, would have flexibility at where to start and how far they would take students in the learning process. The diagram, however, represents typical patterns that would be expected from the CAI competencies model.

The solid box is the smallest in this case, since students would be expected to start at the minimal competency level. On both the vertical and horizontal axes, solid courses would be expected to bring students to minimum exit-level competencies including the content skills (vertical axis) and cross-disciplinary skills (horizontal axis). Courses at dotted and striped institutions would cover all of the material in the solid box and beyond. Students in these courses might in fact achieve beyond minimal competencies identified on both axes; thus, the dotted line indicates the potential for different start and

exit points based on the preparation level of entering students and the course dynamics during a particular semester.

The model assumes that a student body that enters just at the threshold for access to collegiate-level course work will focus most of their attention on mastering the content knowledge. While notable gains in their transferable skills will also be realized, much of the course time will be spent on purely content-related tasks. At higher selectivity-level institutions, greater gains would be expected for both content and cross-disciplinary skills. The student body that has the ability to start beyond the threshold point and/or easily master the content knowledge will have more course time devoted to deepen conceptual understanding and develop transferable skills, such as critical thinking or writing.
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Entry-Level Competencies

Arts & Humanities

Note: The first draft of the arts and humanities entry-level competencies contained primarily cross-disciplinary competencies. The original draft has been replaced with the arts competencies below. The original draft of the entry-level competencies will be incorporated into cross-disciplinary competencies developed across the discipline workgroups.

Competencies for the Fine Arts

These competencies constitute a body of what we consider the minimal level of essential knowledge and skills students should have acquired and be able to demonstrate based on experience in one (selected) fine arts discipline – dance, music, theatre, or visual arts, to certify that they are ready for entry-level college work in said fine arts discipline. Competencies listed below should be interpreted based on a single selected field. These entry level competencies would not apply in the event that a student graduated from a school district which did not offer or require fine arts opportunities.

Essential Entry Level Competencies for the Fine Arts

I. Product and Performance

1. Develop and apply skills of expression to communicate (perform/produce) through the arts by performing, creating, or producing works in visual/performance arts.
   a. Dance: Move, perform, or read and notate dance.
   b. Music: Sing or play an instrument, read musical notation.
   c. Theatre: Interpret a role by reading a script or improvising.

   Visual art: Create a two- or three-dimensional art piece.

II. Elements and Principles

1. Identify elements and principles for visual/performing art forms. Elements:
   a. Dance: Energy/force, space, time.
   b. Music: Duration, intensity, pitch, timbre.
   c. Theatre: Scenario, script/text, set design.
   d. Visual art: Line, shape, color, texture, form, value, space.
   e. Principles:
   f. Dance: Choreography, form, genre, improvisation, style, technique.
   g. Music: Composition, form, genre, harmony, rhythm, texture.
   h. Theatre: Balance, collaboration, discipline, emphasis, focus, intention, movement, rhythm, style, voice.
   i. Visual art: Balance, contrast, emphasis, rhythm/repetition, proportion, unity.
   j. Develop and apply knowledge and skills to read standard notation and/or discuss art works, musical or theatrical performances.

III. Artistic Perceptions

1. Communicate perceptions and ideas in selected art form using an arts-specific vocabulary.
2. Exchange information, questions, and ideas in the evaluation of works of art.

IV. Interdisciplinary Connections

1. Discover and evaluate patterns and relationships within the visual arts and the performing arts.
2. Identify and explain ways in which the principles and subject matter of fine arts disciplines are interrelated to math, science, social studies and communication arts.

V. Historical and Cultural Context

1. Recognize and explain how the fine arts are created in relation to major cultural, socio-political and historical periods.
2. Compare and contrast artworks from

Entry-Level Competencies

English & Communication

The following are the *writing, thinking and expressive* skills identified and recommended by our group of community college and four-year English instructors and professors as well as high school teachers of English. The competencies constitute a body of what we consider the minimal level of knowledge and skills students *should have acquired to certify* that they are ready for entry-level college work in English.

I. Demonstrate critical and analytical thinking for reading, writing, and speaking purposes.
   1. Participate in active reading and discussion of texts.
   2. Incorporate ideas and information from readings into own writing.
   3. Identify purpose, main idea, and supporting evidence.
   4. Distinguish between fact and opinion.
   5. Distinguish between general and specific information.
   6. Summarize and paraphrase information.
   7. Communicate effectively in groups by listening, reflecting, and responding appropriately.

II. Understand and use a writing process.
   1. Have flexible strategies for generating, revising, editing, and proofreading.
   2. Understand writing as an open, flexible process that permits a writer to use later invention and rethinking to revise work.

III. Compose sound sentences.
   1. Use a variety of sentence structures correctly (simple, compound, complex, and compound-complex).
   2. Produce sentences free of major sentence-level errors (fragments, comma splices, fused-sentences).
   3. Communicate with few errors in grammar, usage and mechanics.

IV. Compose sound paragraphs.
   1. Write focused topic sentences.
   2. Use descriptive details, examples, and facts to develop the paragraph's main idea.
   3. Use effective patterns of organization (e.g., chronological, emphatic, spatial, etc.). and development (e.g., comparison/contrast, narration, definition, etc.).
   4. Use transitional devices within paragraphs to achieve coherence and focus.

V. Produce sound discourse.
   1. Use basic essay structure, including an introduction, body, and conclusion.
   2. Construct thesis statements.
   3. Organize ideas logically.
   4. Develop an essay's main idea with adequate and specific supporting detail.
   5. Use transitional devices within essays to achieve coherence, flow, and focus.
   6. Maintain appropriate tone and vocabulary for target audience.

VI. Be familiar with elementary research procedures.
   1. Acknowledge source material and be able to distinguish it from their own ideas.
   2. Locate and retrieve relevant information using traditional and contemporary technologies.
   3. Evaluate reliability of information and sources.
   4. Record relevant information.
   5. Document sources of information, using recognized documentation format.

Entry-Level Competencies

Foreign Languages

Foreign Languages are specifically mentioned in Senate Bill 389 as one of the areas to be addressed by the Curriculum Alignment Initiative. The initial competencies developed as entry-level competencies for entry into postsecondary foreign languages reflected the minimum level of skill (not necessarily the optimal level). Because a foreign language is not a requirement for high school graduation in Missouri, initial competencies reflected general cross-disciplinary skills (e.g. grammar skills) needed for success in a first foreign language course. For this reason, these competencies are not considered just to be important to foreign languages, but to all of the discipline areas. Therefore, these competencies will be incorporated into a cross-disciplinary section that will anchor all of the entry competencies.

Entry-Level Competencies

Mathematics

Incoming college level students are expected to bring hands-on skills in computation and algebraic manipulation, as well as conceptual knowledge rooted in a deep and profound understanding of numbers and basic geometry. Incoming students are expected to know basic mathematical concepts in computation, algebra and geometry. These are described in some detail in following sections.

In addition, incoming students need to have a comfort level with mathematics so that they approach problems by investigating their nature, asking questions, and revising approaches as they reflect on them. It is as important to understand why a solution works as it is know how one reaches a solution.

Mastery of mathematics at all levels should include the following characteristics:

1. Thinking conceptually and not just procedurally about mathematics. Mathematics is a way of understanding, a thinking process, and not a collection of detached procedures to be learned and applied separately.
2. Using logical reasoning and common sense to work on problems in order to find solutions. Successful students can explain their processes and can check their solutions to see whether their findings make sense.
3. Using experimental thinking and a willingness to investigate the steps used to reach a solution, and recognizing that there are often multiple approaches to solving a problem.
4. Taking risks and accepting that a first or second attempt may result in a wrong answer, but that each attempt is an opportunity to try new approaches toward solving the problem.
5. Understanding that formulas and algorithms in computation, while important and crucial, are only part of the analytical process.

Successful incoming students understand that mathematical problem solving involves logical reasoning. Technology is important and relevant in understanding mathematics, but students should be aware of the limitations of technology and recognize that calculators and computers are tools to assist but not replace the thinking process. Students should understand the basic mathematical terminology and use it appropriately. Students must pay attention to the wording of problems and move with ease between the symbolic representation of a problem and its verbal representation. Students are expected to write with clarity and cohesiveness.

Successful students will also present an orientation toward learning that presents itself as a willingness to work for significant periods of time on a single problem. Persistence is invaluable in the quest for a solution to a problem. Sustained inquiry - engaging in the process for more than a short period of time - is an important part of the process when solving a problem. Oftentimes this process will help foster a deeper understanding, build confidence, and inspire learning.

Successful students demonstrate active participation in the process of learning mathematics by:

1. being willing to experiment with problems that have multiple solution methods;
2. demonstrating an understanding of the mathematical ideas behind the steps of a solution, as well as the solution;
3. showing an understanding of how to modify patterns to obtain different results;
4. showing an understanding of how to modify strategies to obtain different results;
5. recognizing when a proposed solution does not work, analyzing why, and using the analysis to seek a valid solution; and
6. demonstrating an ability to solve multi-step problems with a variety of strategies.

In the sections that follow, entry level competencies have been detailed in areas of numerical computation, algebra and geometry. Examples demonstrating the levels of understanding needed will become a part of this document when they are completed. An asterisk by a number indicates that the competency listed is one that is expected of students who plan to major in METS areas of study.

Entry-Level Competencies

Mathematics

I. Numerical Computation

Conceptual understanding of these basic computations, although not explicitly stated (in the examples), is assumed. While technology is useful in helping students explore and enhance their understanding of basic computations, their ability to conceptually understand and perform basic computations without the aid of technology increases the likelihood of success in college level mathematics courses.

Successful students must be able to:

1. Apply mathematical operations to all real numbers in any form (including integers, rational numbers, radicals, and decimals), following the correct order of operations.
2. Calculate the sum, difference, product, and quotient of complex numbers and express the result in standard form.
3. Recognize and generate equivalent forms of fractions, decimals, and percents.
4. Compare and order real numbers, including finding their approximate locations on the number line.
5. Apply laws of rational exponents to real number bases.
6. Recognize and generate equivalent representations (i.e., scientific notation) for very large and very small numbers, and perform mathematical operations on such numerical representations. Move flexibly between scientific notation and expanded form.
7. Compute quantities involving absolute value.
8. Apply the properties of real numbers (including commutative, associative, identity, inverse, and distributive properties).
9. Perform numerical computations involving units of measurement, standard and metric.
10. Communicate accurately using mathematical terminology (e.g., addend, sum, difference, factor, product, divisor, dividend, quotient, remainder, numerator, denominator, exponent, base, radicand, and index).
11. Accurately record symbolic manipulations used in numerical computations, as well as the solutions of numerical computations (e.g., equal signs, inequality symbols, grouping symbols, exponents, subscripts, and solution sets).
12. Communicate accurately using set notation/ terminology (e.g., set-builder notation, element of, well-defined, finite/infinite, subset, proper subset, Ø, cardinal number, equal, equivalent, and interval notation).
13. Estimate numerical computations and judge the reasonableness of the results of these computations.
14. Apply set operations and relations to sets (i.e., union, intersection, complement, and subsets).
15. Represent sets using graphic organizers, including Venn diagrams.

II. Algebra

Successful students are expected to bring a combination of hands-on skill and conceptual understanding of algebra.

1. Successful students know and apply basic algebraic concepts. They:
   a. Add, subtract, multiply, and divide polynomials, rational expressions, and radical expressions.
   b. Divide polynomials.
   c. Apply properties of exponents and radicals.
   d. Factor polynomials (e.g., greatest common factor, grouping, trinomials, difference of squares, sum and difference of cubes).
   e. Simplify polynomials, rational expressions, and radical expressions.
2. Successful students use various appropriate techniques to solve basic equations and inequalities. They:
   a. Solve linear equations and absolute value equations.
   b. Solve linear inequalities and absolute value inequalities.
   c. Solve systems of linear equations and inequalities with two variables, using algebraic or graphical methods.
   d. Solve quadratic equations by factoring, completing the square, and using the quadratic formula.
   e. Solve rational equations.
   f. Solve radical equations.
   g. *Solve nonlinear inequalities. *(Recall, an asterisk by a number indicates that the competency listed is one that is expected of students who plan to major in METS areas of study.)*

3. Successful students distinguish among expressions, formulas, equations, functions and relations. They know when it is possible to simplify, solve, substitute or evaluate appropriately. In addition, they:
   a. Correctly apply the algebraic language and notation for functions including domain and range.
   b. Compose and decompose functions and find inverses of basic functions.
   c. Identify and compare a variety of functions (e.g., constant, linear, quadratic, cubic, absolute value, exponential and logarithmic functions) and apply the properties of each.
4. Successful students understand the relationship between equations and graphs. They:
   a. Recognize basic forms of the equation of a line and graph the line without technology.
   b. Recognize the basic shape of the graph of a quadratic function; find the vertex; calculate and recognize the relationships among the solutions of the related quadratic equation, zeroes of the function and intercepts of the graph.
   c. Recognize and sketch the basic shapes of the graphs of the following functions: constant, linear, quadratic, cubic, square root, cube root, absolute value, exponential and logarithmic (without technology).
   d. Describe the effects of parameter changes on functions.
   e. Describe and sketch the effects of transformations on the graphs of functions.
   f. Represent data in a variety of ways (e.g. scatter plot, graph, and table) and select the most appropriate method.
5. Successful students understand algebra well enough to apply it procedurally and conceptually to a range of common problems. Successful students demonstrate the ability to work with formulas and symbols algebraically. They:
   a. Recognize which type of function or expression best fits the context of a basic application.
   b. Use multiple representations to solve problems (e.g. analytic, numerical, and geometric).
   c. Represent algebraically and solve problems that include linear, quadratic, exponential, and logarithmic relationships.
   d. Use mathematics to solve applications from various fields (e.g. rates of change, compound interest, chemical mixture, population growth, and business).
   e. Solve literal equations and formulas for a specified variable.
   f. Communicate accurately using the vocabulary and symbols of algebra.
6. Successful students understand the appropriate use, as well as the limitation, of appropriate technology. They:
   a. Plot relevant graphs.
   b. Use appropriate problem solving methods.
   c. Recognize when the results produced are unreasonable or represent misinformation.

III. Geometry

Successful students must possess a basic body of knowledge including but not limited to the Pythagorean Theorem, formulas for perimeter, area, volume, and surface area. Successful students demonstrate an understanding of and can explain the mathematical ideas behind the steps of a solution as well as the solution. Successful students recognize when a proposed strategy does not work, analyze why, and use the analysis to seek a valid solution. Successful students understand the appropriate use as well as the limitations of technology.

Successful students must be able to:

1. Apply properties of similarity and congruence.
2. Recognize and apply properties and theorems of parallel lines cut by a transversal.
3. Recognize and apply properties and theorems related to circles.
4. Determine the area and perimeter of plane figures and use the concept of conservation of area.
5. Apply the basic formulas for volume and surface area of solids.
6. Use deductive reasoning to develop and write simple geometric proofs.
7. Use inductive reasoning in problem situations to build a basis for the use of both proof and counter-examples.
8. Apply properties of similarity, particularly related to triangles, to find unknown geometric measurements including angle measurements, lengths of sides, areas, and volumes.
9. Recognize and represent solids and surfaces in three-dimensional space from a two-dimensional representation (e.g. recognize the features of a three-dimensional object: faces, edges, vertices, and shape).
10. Use coordinate geometry to make connections between algebra and geometry.
    a. Describe lines in the coordinate plane using slope-intercept and point-slope form.
    b. Use slopes to describe the steepness and direction of lines in the coordinate plane and to determine if lines are parallel, perpendicular, or neither.
    c. Relate geometric and algebraic representations of lines, segments, simple curves, circles, and *conic sections. (Recall, an asterisk by a number indicates that the competency listed is one that is expected of students who plan to major in METS areas of study.)
    d. Derive and use the formula for distance between two points.
11. Apply the definitions of sine, cosine, and tangent using right triangle trigonometry and *similarity relations. (Recall, an asterisk by a number indicates that the competency listed is one that is expected of students who plan to major in METS areas of study.)
12. *Use trigonometry for examples of algebraic/geometric relationship, including the Law of Sines/Cosines and Trigonometric Identities. (Recall, an asterisk by a number indicates that the competency listed is one that is expected of students who plan to major in METS areas of study.)
13. Describe and represent transformations and symmetries of plane figures.
14. Make connections between analytic, numerical, and geometric methods to solve problems.

A. A. Natural Sciences General Entry Competencies

I. Quantitative skills
Students are more likely to succeed in a college science course if they enter with adequate preparation in mathematics. Students are strongly encouraged to meet the entry-level standards described for college math before enrolling in an introductory college-level science course.

II. Scientific Inquiry

1. Science understanding is developed through the use of scientific investigation, reasoning, and critical thinking.
    a. Scientific inquiry requires the ability to gather and analyze information and ideas.
        i. Apply sound library research skills (e.g., article searches, online databases).
        ii. Evaluate a given source for its scientific credibility (e.g. web sites, product advertisements, use of personal testimony in place of scientific evidence, etc.).
        iii. Read with comprehension and be able to summarize and draw conclusions from written material in basic science.
        iv. Interpret data using various representations (e.g., graphs, tables, charts, and plots).
    b. Scientific inquiry includes the ability to formulate a testable question and explanation.
        i. Compose testable questions and hypotheses.
        ii. Differentiate between a hypothesis and a scientific theory (e.g. a hypothesis is a tentative but testable explanation subject to experimentation; a scientific theory has been repeatedly confirmed through observation and experimentation).
        iii. Design and conduct a valid experiment (formulate and clarify the method; identify the controls; collect, organize, display and interpret the data; make revisions of hypotheses, methods and explanations; present the results; and seek critiques from others).
        iv. Recognize that it is not always possible, for practical or ethical reasons, to control some conditions (e.g., when sampling or testing humans, when observing animal behavior in nature).
        v. Acknowledge there is no fixed procedure called “the scientific method,” but that some investigations involve systematic observations, models (e.g. astronomy), carefully collected and relevant evidence, and logical reasoning in developing hypotheses and other explanations.

c. Scientific inquiry includes the ability to select and utilize appropriate investigative methods and tools to gather and interpret relevant data.
   i. Make qualitative and quantitative observations using the appropriate senses, tools and equipment to gather data (e.g., microscopes, thermometers, computers, balances, metric rulers, graduated cylinders).
   ii. Measure length to the nearest millimeter, mass to the nearest gram, volume to the nearest milliliter, temperature to the nearest degree Celsius, time to the nearest second.
   iii. Understand the metric system and perform simple conversions within the metric system and between the metric and US systems. Use and interpret values written in scientific notation (exponents).
   iv. Judge whether measurements and computations of quantities are reasonable.
   v. Calculate descriptive statistics (e.g. mean, median, mode, range, ratio, percentage).
   vi. Depict data using various representations (e.g., graphs, tables, charts, and plots).

d. Scientific inquiry includes the evaluation of scientific principles and explanations (laws, theories, models) as well as the methods used to support them.
   i. Analyze whether evidence (data) and scientific principles support proposed explanations.
   ii. Communicate and defend a scientific argument.

2. A scientific theory is an explanation of some phenomenon of the natural world, based on a body of facts that have been repeatedly confirmed through observation and experiment.
   a. Scientific explanations of phenomena change over time as a result of new evidence (e.g., cell theory, theories of spontaneous generation, theories of extinction, evolutionary theory, genetic theory of inheritance).
      i. Differentiate between scientific theories and laws. In science, a law is a description of a specific relationship among observable phenomena (e.g., the Gas Laws), but does not explain the observed relationship. A theory explains a set of laws and related phenomena (e.g. the theory of plate tectonics explains diverse observations regarding the distributions of volcanoes, earthquakes, and geological formations, as well as the relationships among organisms that inhabit different continents). Theories lead to new predictions and tests of those predictions.
      ii. Explain why accurate recordkeeping, openness, and replication are essential for maintaining an investigator's credibility with other scientists and society.
      iii. Recognize that acceptable validation of scientific theories includes reproduction of results and clearly reported methods and procedures that increase the opportunity for further research.
   b. Knowledge is cumulative and learning requires retention of knowledge and application to further topics; knowledge gained in one science is applicable to other sciences.

3. Science and technology affect, and are affected by, society.
    a. Science and society interact to determine the direction of scientific and technological progress.
        i. Understand that social and economic forces strongly influence which science and technology programs are pursued and supported with investment of resources and manpower.
        ii. Recognize the role of science in both personal and public decision-making.
        iii. Be able to evaluate scientific issues that impact your daily life.
    b. Science advances through the development and application of new technology and new ideas.
        i. Realize that technological challenges may create a demand for new science technology.
        ii. Understand that new technologies make it possible for scientists to extend research and advance knowledge.

B. Life Sciences Entry Competencies

These competencies define the knowledge and skills needed for students to successfully enter and complete college-level work in biology. Sources used in preparation of this document include 1) Updated draft of Course Level Expectations in Science prepared by Missouri DESE 2) Quality in Undergraduate Education (Georgia State University Proposed Standards for Non-Majors Biology Course) 3) Natural Sciences, A Project of AAU and Pew Charitable Trusts 4) MoDEC entry-level skills recommendations in reading, writing and math and 5) ACT College Readiness Standards.

The purpose of high school biology is to help students develop a foundation in biology that focuses on major themes in the discipline, and to help them become scientifically literate citizens. For example, students need to be familiar with health-related issues, biotechnology and agriculture issues, environmental concerns, and the human impact on natural systems. Of equal importance is that students understand the nature of scientific endeavors. The recommendations in this document highlight major themes and concepts in the discipline. Towards this end we encourage emphasis be placed on why biological processes (e.g. mitosis, photosynthesis, respiration, etc.) are important and less emphasis be placed on the details of these processes. We also encourage a shift in the emphasis from cell and molecular biology to a more balanced approach that includes organismal, evolutionary and ecological biology.

I. Properties and Principles of Matter and Energy
    1. Matter is composed of atoms that enter into chemical reactions to form molecules.
        a. Cells carry out chemical transformations for the synthesis or breakdown of organic compounds.
            i. Identify reactants and products in a chemical equation.
            ii. Understand the importance of the water molecule and the carbon atom to living organisms.
            iii. Identify the major organic compounds (proteins, nucleic acids, lipids, carbohydrates) that are found in living systems and identify their dietary sources.
        b. Enzymes are chemicals that facilitate the breakdown and synthesis of molecules in living organisms.
    2. Energy for most living organisms is derived ultimately from the sun.
        a. Energy from the sun is converted to ATP within living organisms.
            i. Understand that energy is stored or released in the breakdown and/or synthesis of organic compounds.
            ii. Recognize that as energy is transformed from one form to another (e.g., metabolic pathways, food webs), the amount of usable energy decreases with each transformation.
        b. ATP is used by all organisms as a source of energy to do work in a cell.

II.

III. Characteristics of Living Organisms

1. Cells are the fundamental units of structure and function of all living things.
    a. All cells share basic features (e.g., a plasma membrane).
        i. Explain the characteristics that separate living cells from non-living matter (e.g. reproduction, metabolism).
        ii. Recognize that all organisms are composed of cells, the fundamental units of structure and function; organisms may be unicellular or multicellular.
        iii. Describe the structure of the plasma membrane and the function of the following cell components: plasma membrane, cell wall, cytoplasm, nucleus, chloroplast, mitochondrion, and ribosome.
        iv. Predict the movement of molecules across the plasma membrane (i.e. diffusion, osmosis, active transport) as cells exchange materials with their environment or with other cells.
    b. Different types of cells have different specializations.
        i. State the similarities and differences between the cells of prokaryotes and eukaryotes, and plants and animals.
        ii. Recognize that cells both increase in number and differentiate, becoming specialized in structure and function, during and after embryonic development.
2. Living organisms transform energy through the processes of photosynthesis and cellular respiration.
    a. Photosynthesis and cellular respiration are complementary processes necessary for the survival of most organisms on Earth.
        i. Compare and contrast the function of mitochondria and chloroplasts (know that mitochondria are responsible for converting energy from food to usable ATP and that chloroplasts harvest energy and carbon from the sun and air, respectively).
        ii. Compare and contrast the products and reactants for the overall processes of photosynthesis and cellular respiration, stressing the importance of and the interrelationship between these processes (e.g., recycling of oxygen and carbon dioxide). Do not assess intermediate reactions (i.e. no light-dependent and light-independent reactions, Krebs cycle, etc). Focus on the beginning- and end-products of photosynthesis and cellular respiration.
    b. Plants perform both photosynthesis and cellular respiration.
3. All living cells have genetic material (DNA) that carries hereditary information.
    a. The organization of DNA into chromosomes is key to both replication of DNA and its distribution to new cells or organisms.
        i. Differentiate between the terms genome, chromosome, DNA, and gene.
        ii. Describe the chemical and structural properties of DNA (e.g., DNA is a double helix comprised of four different nucleotides).
        iii. Explain how base-pairing rules allow cells to replicate DNA molecules.
        iv. Recognize that an error in the DNA molecule (mutation) can be transferred during replication.
        v. Identify possible external causes (e.g., heat, radiation, certain chemicals) and effects of DNA mutations (e.g., altered proteins which may affect chemical reactions and structural development).

b. Protein structure and function are coded by the DNA molecule.

i. Recognize that DNA codes for proteins, which are expressed as the heritable characteristics of an organism.

ii. Recognize that information flows from DNA to messenger RNA to a resulting protein. (Understanding this concept is more important than the details of transcription and translation.)

iii. Identify the diverse roles proteins play on the cellular level (enzymes, structure, communication, transport, etc.).

iv. Explain how most cells in an organism have the same DNA, genes and chromosomes, but are functionally different because they make different proteins (e.g., pancreatic islet cells make insulin while lymphocytes make antibody).

c. Biotechnology and genetic engineering (e. g., recombinant DNA technology) can be used to analyze or manipulate gene structure and function.

4. The reproductive process provides a genetic basis for the transfer of biological characteristics from one generation to the next.

a. Reproduction can occur asexually or sexually.

i. Distinguish between asexual and sexual reproduction.

ii. Explain the importance of sexual reproduction in the generation of variation among individuals within a population.

b. Chromosomes carry hereditary information from one cell to daughter cells and from parent to offspring during reproduction.

i. Recognize that the reproduction of body cells (and asexual reproduction in single-celled organisms) occurs through the process of mitosis, which results in daughter cells that are genetically identical to the parent cell. Students do not need to name the stages of mitosis or meiosis.

ii. Recognize that through the process of meiosis, the number of chromosomes in gametes is reduced by half. (Emphasize the similarities and differences between mitosis and meiosis, rather than details of the stages involved.).

iii. Explain how fertilization restores the diploid number of chromosomes.

c. The pattern of inheritance for many traits can be predicted using the principles of Mendelian genetics.

i. Recognize that alleles are different versions of a single gene.

ii. Explain the chromosomal differences between human males and females (XY and XX, respectively).

iii. Predict the probability of the occurrence of specific traits, including sex-linked traits, in an offspring by using a monohybrid cross.

5. Structure is related to function in multicellular organisms.

a. The structure of multicellular organisms is best understood as a hierarchy of structural levels from cells, to tissues, to organs, to organ systems, that interact to maintain homeostasis.

i. Identify the major component parts and explain the function of the primary organ systems of humans, including respiratory, circulatory, reproductive, and digestive systems.

ii. Provide an example of how different components of the human body interact to maintain homeostasis.

b. Structures in plants and animals support the function of energy transformation.

i. Relate the operation of body systems to the processes of cellular respiration, nutrient acquisition, and waste removal.

ii. Relate the major organs of plants (e.g. roots, stems, leaves) to their roles in photosynthesis.

6. A fundamental unity underlies the diversity of all living organisms.

a. Biological classifications are based on how organisms are related.

i. Recognize that the probability of relatedness can be determined by comparing DNA sequences.

ii. Explain how similarities used to group taxa might reflect evolutionary relationships (e.g., similarities in DNA and protein structures, morphology, etc.) with the focus on domains and kingdoms.

b. The classification of organisms is constantly being revised and extended as scientists gather more information.

IV. Evolution and Ecology of Organisms

1. The theory of evolution provides a fundamental framework for understanding the history and diversity of life on Earth and is the central unifying theme of biology.

a. Evidence for the nature and rates of evolution can be found in anatomical and molecular characteristics of organisms.

i. Explain the evidence that supports the theory of biological evolution (e.g., fossil records, homologous and vestigial structures, similarities among organisms in DNA/proteins and morphological traits).

ii. Identify how evolution is happening today (e.g., antibiotic resistant bacteria) and its impact on humans.

iii. Understand that evolution takes time. Evolution can happen in a few generations, but major change, such as speciation, often requires long periods of time.

b. Natural selection is one of the primary mechanisms of evolution.

i. Define evolution as a change in the proportions of alleles in a population. (Note: students do not need to know about Hardy-Weinberg equilibrium.)

ii. Explain that evolution is the outcome of natural selection: 1) Organisms pass their genetic traits to their offspring. 2) The offspring are not identical to each other, but carry genetic variation as a result of both mutations and new combinations of existing alleles. 3) Not all members of a generation will reproduce equivalently. 4) Because the genetic makeup of the next generation will be derived from those individuals that are able to pass on their alleles, the proportion of individuals with advantageous characteristics will increase in the population. Note that while mutations occur randomly, the process of natural selection is not random.

iii. Although natural selection can cause a new trait to become widespread, natural selection does not direct the mutations that cause the initial appearance of a trait in the population.

iv. Identify examples of adaptations that have resulted from variations favored by natural selection (e.g., long-eared jack rabbits, camouflaged insects) and describe how that variation provided individuals an advantage for survival.

v. Explain how environmental factors (e.g., habitat loss, climate change, pollution, introduction of nonnative species) can be agents of natural selection.

c. Extinction occurs as a result of both natural processes and human-induced changes in the environment.

i. Explain how genetic homogeneity may cause a population to be more susceptible to extinction (e.g., succumbing to a disease for which there is no natural resistance).

ii. Explain why species that are adapted to a particular environment may go extinct if the environment changes.

2. Organisms interact with one another and with their environment.

a. Interactions among populations within a community affect the structure and balance of an ecosystem.

i. Understand that biologists view the natural world in a hierarchical organization from individuals, populations, communities and ecosystems.

ii. Define a species (e.g. the ability to mate and produce fertile offspring).

iii. Observe a local ecosystem (local pond, aquarium, etc.) and explain the nature of interactions between organisms in predator/prey relationships and different symbiotic relationships (i.e., mutualism, commensalism, parasitism).

iv. Understand the concept of the ecological niche of an organism (the interactions and interdependence of the organism with other organisms and the environment).

b. Living organisms have the capacity to produce populations of infinite size, but environments and resources are finite.

i. Identify and explain the limiting factors (biotic and abiotic) that may affect the carrying capacity of a population within an ecosystem.

ii. Explain how populations within an ecosystem may change in number and/or structure in response to changes in biotic and/or abiotic factors.

c. All organisms, including humans, and their activities cause changes in their environment that affect the ecosystem and the diversity of species within that ecosystem.

i. Explain how natural or human caused changes (biological, chemical and/or physical) in one ecosystem may affect other ecosystems due to natural mechanisms (e.g., global wind patterns, water cycle, ocean currents).

ii. Explain the impact (beneficial or harmful) that a natural or human caused environmental event (e.g., forest fire, flood, volcanic eruption, avalanche, acid rain, global warming, pollution, deforestation, introduction of an exotic species) may have on individuals, populations, species, communities and/or the global environment.

3. Matter recycles within and energy flows through the ecosystem.

a. Matter (e.g., carbon, nitrogen, oxygen) is recycled within an ecosystem.

i. Recognize that living organisms play a critical role in recycling of matter.

ii. Understand that human activities can alter the natural recycling of matter (e.g., global warming).

b. As energy flows through the ecosystem, living organisms capture a portion of that energy and transform it to a form they can use.

i. Illustrate and describe the flow of energy within a food web and an energy pyramid.

ii. Predict how the use and flow of energy may be altered due to changes in a food web.

C. Physical Sciences Entry Competencies

The physical sciences include Astronomy, Chemistry, Geology, and Physics. College Knowledge: What It Really Takes for Students to Succeed and What We Can Do to Get Them Ready was used as a resource for the competencies related to these courses. College Knowledge is written by David T. Conley and published by the Center for Education Policy Research in Eugene, Oregon. The competencies also embrace the National Science Standards as expressed in the K-12 standards as adopted by DESE.

A proficient level on Missouri high school science end-of-course exams is desired for all high school graduates; however, these competencies are specific for the introductory classes. The most important skill for success in physical science courses is mathematical proficiency. As mentioned in other places in this report, habits of mind are also very important to achieving that success. Further, students who complete high school chemistry and physics courses should be better prepared to be successful in college level physical science courses. While the competencies below are split into sections according to sub-disciplines within the physical sciences, there is large cross-over between these sub-disciplines such that competencies in one sub-discipline may apply to introductory courses in the others.

I. Geology (Earth Science)-Students should:

1. Be prepared to enter college algebra (see the Mathematics Entry Level Competencies).
2. Know that the earth is a body in space whose environmental system consists of the atmosphere, cryosphere, hydrosphere and biosphere; and that this system depends largely on the sun for light and heat.
3. Understand that the current environment (e.g., geography and climate) has changed dramatically in the past and will continue to do so.
4. Understand that relationships exist among the solid earth (geology and soil science), the water (hydrology and oceanography) and the atmosphere (meteorology and atmospherics.
5. Be aware of the major events in the geologic history of the Earth.

II. Astronomy-Students should:

1. Be prepared to enter college algebra (see the Mathematics Entry Level Competencies).
2. Be familiar with the nature of the solar system and the universe.
3. Be familiar with the basic motions of bodies in space.
4. Have an appreciation of the immensity of the universe.

III. Chemistry-Students should:

1. Be prepared to enter college algebra (see the Mathematics Entry Level Competencies).
2. Understand that atoms, molecules and ions have a set of physical and chemical properties that control their behaviors in a range of states.
3. Know that states of matter depend on molecular arrangement and freedom of motion.
4. Have a basic familiarity with the Periodic Table.
5. Know the structure of an atom.
6. Understand that molecules are composed of atoms in unique and consistent arrangements.
7. Know that substances react chemically in characteristic ways with other substances to form new substances (compounds) with different characteristics and properties.

IV. Physics-Students should:

1. Be prepared to enter college algebra (see the Mathematics Entry Level Competencies).
2. Understand the relationship between energy, heat and temperature.
3. Understand conservation of mass and energy.
4. Understand the difference between position, velocity and acceleration.
5. Understand Newton's laws as a classical description of motion.
6. Know the characteristic properties of waves.
7. Understand every object exerts gravitational force on every other object.
8. Understand general concepts related to electrical and magnetic forces.

Entry-Level Competencies

Social Sciences

The Social Science Workgroup of the Missouri Department of Higher Education wish to present the following entry-level competencies in an effort to establish what they feel are the essential standards for successful entry into postsecondary social science coursework. The following competencies outline both general and discipline-specific knowledge. These standards are based upon the earlier work of the Association of American Universities and the PEW Charitable Trusts *(Social Sciences, A report for Standards for Success*, pp: 55-65. www.s4s.org).

I. General Knowledge and Skills
Successful students have a basic understanding of the social sciences (anthropology, history, economics, geography, political science, sociology). They:

1. Distinguish between the different characteristics that define the disciplines within the social sciences.
2. Are aware of current world events, issues, and problems and know how concepts and theories in the social sciences can be applied to understand them.
3. Perceive events and circumstances from the vantage point of others, including those in racial and cultural groups different from their own; from the other gender, from other ages; and from those who live under other political and economic systems.
4. Are able to identify and analyze problems appropriate to the social science discipline being studied.
5. Are able to distinguish between, read, and comprehend primary and secondary documents.

II. History
Successful students know significant periods and events in United States history. They understand important events, social movements and political processes that have shaped U.S. and World history, and are aware of the major historical figures that influenced history. These include but are not limited to:

1. The evolution and distinctive characteristics of major early Asian, African, and American pre-Columbian societies and cultures.
2. The connections among civilizations from earliest times, and the gradual growth of global interaction among the world's peoples, speeded and altered by changing means of transport and communication.
3. Comparative history of selected themes, to demonstrate commonalities and differences not only between European and other societies, but among European and non-European societies themselves.
4. Varying patterns of resistance to, or acceptance and adaptation of, industrialization and its accompanying effects, in representative European and non-European societies.
5. The adaptation of both indigenous and foreign political ideas, and practices in various societies. Borrowers of other's political ideas, exporters of political ideas.
6. The interplay of geography and local culture in the responses of major societies to outside forces of all kinds.
7. The evolution of American political democracy, its ideas, institutions, and practices from colonial days to the present; the Revolution, the Constitution, slavery, the Civil War, emancipation, and civil rights.
8. The development of the American economy; geographic and other forces at work; the role of the frontier and agriculture; the impact of technological sources and urbanization on land and resources, on society, politics, and culture. The role and emancipation of American labor.
9. The gathering of people and cultures from many places, and the several religious traditions, that have contributed to the American heritage and to contemporary American society.
10. The changing role of the United States in the outside world; relations between domestic affairs and foreign policy; American interactions with other nations and regions, historically and in recent times. The United States as a colonial power and in two world wars. The Cold War and global economic relations.
11. The distinctively American tensions between liberty and equality, liberty and order, region and nation, individualism and the common welfare, and between cultural diversity and civic unity.
12. The major successes and failures of the United States, in crises at home and abroad. What has "worked" and what has not, and why.

III. Political Science (Civics)

1. Successful students have a basic understanding of types of governments. They:
   a. Understand the nature and source of various types of political authority (e.g., the differences between democracy and oligarchy).
2. Successful students have a basic understanding of the U.S. political system and its history. They:
   a. Know basic facts about the U.S. political system and constitutional government (e.g., federalism; checks and balances; and legislative, executive and judiciary branches of power).
   b. Understand the content and context of documents that established the U.S., especially The Declaration of Independence and the U.S. Constitution.
   c. Understand the content and context of documents important for the protection of individual rights in the U.S., especially the U.S. Constitution and the Bill of Rights.
   d. Know the methods citizens can use to participate in the political process at local, state and national levels, and how political participation can influence public policy.

IV. Geography

Below are entry-level competencies in geography. These competencies encompass general concepts in Geography, Physical Geography and Human Geography. It is not our expectation that students would be fully conversant in these concepts when entering college, but that they would have been exposed to many of them. Traditionally, place name identification has been conceived of as the main focus of geography, but much more important are the major geographical concepts and cultural understanding of the diversity of the places in the world. Geographical approaches link many different branches of the social sciences, as well as the physical sciences. As such students who have exposure to these concepts will be more likely to succeed in not only college-level geography courses, but they will be in a stronger position to succeed in other courses, such as: introduction to physical science, surveys of American and world history, introduction to sociology and anthropology courses, and beginning government courses. Students meeting entry-level expectations in geography will be able to:

1. Use maps to determine and define major geographical units, such as: regions, continents, countries, and major cities.
2. Identify and interpret different types of maps, such as: topographic (raised relief and contour), cartograms, proportional symbol, and choropleth maps
3. Identify and define places by understanding ethnicity; language and language systems; and patterns of religion
4. Define and distinguish between concepts of relative distance and absolute distance, relative direction and absolute direction, relative location and absolute location
5. Understand fundamental population models, such as the demographic transition model, and associated terminology, including but not limited to, total fertility rate, rate of natural increase, etc.
6. Describe different patterns of migration, the different types of migration, and the causes of migration
7. Read and interpret data in atlases, e.g. percentage of population who are farmers, population density, percentage of population that live in urban areas
8. Identify the continents of the world and their major topographic qualities, i.e. mountainous, high plateau, etc and demonstrate an understanding of how these qualities influence human settlement patterns
9. Distinguish between weather and climate and demonstrate an understanding of how climate influences human settlement patterns
10. Identify areas of the world by their dominant vegetation characteristics, i.e. savanna, tropics and demonstrate an understanding of how this influences human settlement patterns
11. Identify major bodies of water, i.e. oceans, seas, and major rivers and distinguish between fresh and salt water and demonstrate an understanding of how proximity to fresh water continues to influence human settlement patterns.

Entry-Level Competencies

American Government

The purpose of the American government course at Missouri colleges and universities is to prepare students to be competent citizens who understand and are capable of participating in the political processes of the nation. Upon successful completion of the course, the student will:

1. Understand of the environment of the American political system by examining the political ideologies and theories of democracy that influenced the construction of our system of government.
2. Outline the structure of our government, as set up in the Constitution.
3. Describe the links between citizens and government. In this, they should articulate key concepts about voting, political parties, campaigns, and other forms of political participation.
4. Understand (1) the structure and interactions of the presidency, congress, bureaucracy, and courts and (2) how the institutions are intended to respond to citizen inputs.
5. Understand practices and processes that describe how governmental institutions work and interact to create domestic and foreign policy.

We recognize there will be variation in emphasis by instructor, but the preceding goals, if met, will provide a student who completes the course with a grade of C or better with the minimum level of knowledge that we expect of a competent citizen and of students who enter our upper division courses. At the end of the day, students should walk away with a holistic picture of the varied institutions and practices in our system, which allows them to understand these as solutions, albeit imperfect ones, to problems of governance in this country.

These goals can be met if the content of each course covers the following topics and students are tested on their knowledge of this material.

I. The Environment of our System

1. Origins of the American System. Students will:
   a. Define the word "politics."
   b. Define "ideology" and its component parts, beliefs and values.
   c. Identify the key components of three classic ideologies (Classical Conservatism, Classical Liberalism, Classical Socialism).
   d. Explain what Classic Liberalism is, why it is the "American" ideology, and why it makes the United States unique as the world's most classically liberal nation.
   e. Understand the difference between a democracy and a republic
   f. Understand the contributions of Rousseau, Locke, Montesquieu, and Newton to the American version of democracy.
2. The Constitution. Students should be able to:
   a. Understand the weaknesses of our first national government, the Articles of Confederation and why certain leaders felt it was necessary to create a new government (patriots, merchants)
   b. Understand that the framers of the Constitution were pragmatic politicians who in large part drafted the Constitution to solve practical problems of governance, identify the key parts of the Constitution, both in the main body and the Amendments (the 7 articles and, at a minimum, the first 10 amendments and the Civil War Amendments).
   c. Identify the major sections of the Missouri Constitution (especially Articles 1-4 and 12).

3. Federalism. Students should be able to:
    a. Define federalism and understand why it was included in the Constitution.
    b. Describe the clauses in the Constitution relevant to the power of the central government in the state-federal relationship (supremacy clause, full faith and credit, privileges and immunities, elastic, commerce, etc.).
    c. Describe the clauses in the Constitution relevant to the power of the state governments in the state-federal relationship (enumerated powers, 10th amendment, 11th amendment, etc.).
    d. Explain the importance of McCulloch v. Maryland.
    e. Explain the concept of "devolution" in the state-federal relationship.
    f. Understand the modern relevance of federalism and its implications.

II. Links between the Government and the Governed
1. Political Participation. Students should be able to:
    a. Define political participation.
    b. Understand why some people are more likely to participate in politics than others.
    c. Explain why Americans, in general, participate at lower rates than people in other democratic countries (most nations have very different political party systems).
    d. Explain why Americans now participate at lower rates than Americans of forty years ago (should include possible explanations as well as the argument that the decline in participation is overblown).
    e. Understand why some interest groups are more "successful" than others (explain the difference between economic interest groups and public interest groups). Identify the ways in which interest groups influence the policymaking process (lobbying, grassroots lobbying, etc.).

2. Public Opinion and the News Media. Students should be able to:
    a. Explain the role public opinion should play in governing a representative democracy (be conversant with the terms "delegate," "trustee," and "politico").
    b. Describe the possible flaws in public opinion polling and how to be a careful consumer of such polls (understand sampling, question wording, survey design, margin of error).
    c. Describe the problems with the coverage of politics by the news media (overemphasis on scandal and sensational events).
    d. Explain how politicians use the news media (use of staged events, trial balloons and leaks, extensive PR staff).
    e. Explain how the news media have changed politics (image over substance).
3. Political parties. Students should be able to:
    a. Define a political party and distinguish it from an interest group.
    b. Explain the functions served by parties in a representative democracy.
    c. Describe how the Progressive Era reforms and how they weakened parties in the United States.
    d. Explain the difference between the difference between choosing representatives from single member, simple plurality districts (and states in the case of Senators) and proportional representation.
    e. Explain why we have a predominantly two
    f. -party system in the United States.
    g. Describe the role third parties have historically played in the United States.

4. Campaigns. Students should be able to:
    a. Explain the criteria for a good election (turnout, absence of fraud and demagoguery, be informational, influence what government does).
    b. Analyze recent elections by the criteria for a good election.
    c. Explain what the Electoral College is and how it works.
    d. Understand the current state of campaign finance law in the United States (should know the FECA amendments of 1973, Buckley v. Valeo, Bipartisan Campaign Reform Act, McConnell v. FEC, more recent developments).

III. Institutions and Issues

1. Congress. Students should be able to:
    a. Explain the local orientation of members of Congress (which means that they should know Congress is better at serving local interests than the national interest and why that is the case).
    b. Describe the structure of the House and Senate.
    c. Understand the process of how a bill becomes a law.
    d. Know that the passage of the annual budget is Congress's biggest job and know how that process works.
2. Executive Branch. Students should be able to:
    a. Know who can legally become president and contrast it with the far more limited (demographically) group of people who have actually served as president.
    b. List the functions, or jobs, of the president.
    c. Distinguish between the formal (constitutional) and informal (evolved) powers of the president.
    d. Explain why the president is much more effective as a foreign policy leader than a domestic policy leader.
    e. Understand the characteristics and functions of the bureaucracy, as well as the manner in which it fits into a democratic society.
3. The Courts. Students should be able to:
    a. Explain the primary function (adjudicating) and primary objective (protect civil liberties) of courts.
    b. Answer important questions about the design of the federal judiciary through an understanding of Hamilton's Federalists papers on the subject (why permanent tenure in office, why selection by the president and confirmation by the senate, why a small, collegial court).
    c. Describe the design of the federal judiciary (district, circuit, supreme courts); understand how the Supreme Court functions.
    d. Define judicial review and be able to explain the importance of Marbury v. Madison.
    e. Understand the factors which influence Supreme Court decisions (the Constitution, the law, personal views of the justices, public opinion).
    f. Know the limits on the power of the Supreme Court (the president, the Congress, the Constitution, judicial restraint).
    g. Explain the difference between civil rights and civil liberties.
    h. Define selective incorporation.
    i. Identify the constitutional amendments that bear on our most important right, voting (15, 17, 19, 23, 24, 26).
4. Policy. Students should be able to:
    a. Explain what type of economic system the United States has.
    b. Explain why the government is involved in regulating the economy.
    c. Explain the difference between fiscal and economic policy.
    d. List the foreign policy goals of the United States.
    e. Describe the process of making foreign policy in a democracy.
    f. Differentiate between the country's military and economic tools for making foreign policy.
    g. Understand the ways in which political institutions and the attitudes of the general public interact in the production of both foreign and domestic policy.

Entry-Level Competencies

College Algebra

I. All institutions generally expect students should be able to:

1. Understand the concepts of functions and be able to apply the properties of functions and their graphs.
2. Understand the relationship between linear functions and straight lines and be able to apply such knowledge.
3. Understand the concept of piecewise-defined functions and be able to translate this knowledge to their properties and graphs.
4. Understand the concept of transformation (e.g., shifting, reflecting, stretching, shrinking) of functions and be able to recognize and apply such knowledge when graphing functions.
5. Understand the concept of combining functions and be able to perform these operations and recognize the resulted functions and their properties.
6. Understand the invertibility of functions and the relationship between functions inverse to each other, and be able to determine inverse functions when appropriate.
7. Understand the meaning of solutions to linear and rational equations and be able to solve such equations whenever appropriate.
8. Apply the acquired understanding and knowledge of functions to model appropriate real-world situations and draw mathematical conclusions.
9. Understand the concept of complex numbers and be able to perform operations involving them.
10. Understand the meaning of solutions to quadratics equations and be able to solve such equations.
11. Understand and recognize other types of equations and be able to apply previously acquired knowledge to solve such equations whenever appropriate.
12. Understand the meaning of solutions to linear and absolute value inequalities and be able to solve such inequalities whenever appropriate.
13. Understand the relationship between quadratic functions and parabolas, and able to connect such knowledge to quadratics equations.
14. Understand the properties and graphs of polynomial functions and be able to perform basic operations involving polynomials.
15. Understand the meaning of the Remainder Theorem and its application to evaluating polynomial functions. Understand the meaning of the Factor Theorem and its application to solving polynomial equations.
16. Understand the meaning of zeros of polynomial functions and their connection to the graphs of these functions.
17. Understand the importance of the Fundamental Theorem of Algebra, its application to polynomial equations, and its connection to complex numbers.
18. Understand the properties and graphs of rational functions and be able to generate appropriate information, including asymptotes.
19. Understand the meaning of solutions to polynomial and rational inequalities and be able to solve such inequalities whenever appropriate.
20. Understand the properties and graphs of exponential functions and be able to evaluate and graph such functions.
21. Understand the relationship between logarithmic functions and exponential functions and be able to evaluate and graph such functions.
22. Understand the properties of logarithms and their relationship to exponentials. Be able to perform operations on logarithms.
23. Understand the meaning of solutions to exponential and logarithmic equations and be able to apply the inverse relationship between exponentials and logarithms to equations involving them whenever appropriate.
24. Understand the meaning of exponential growth and decay and apply the knowledge of exponential and logarithmic functions model two applications.
25. Understand the meaning of compound interest and apply the knowledge of exponential functions to model this application.

II. The following competencies are based on the elective topics and vary from institution to institution. Students should be able to:

1. Understand the underlining principle of variation and how it is used to model many applications.
2. Understand the meaning of solutions to linear systems of equations and be able to use effective ways to find and express possible solutions.
3. Understand the meaning of solutions to systems of nonlinear equations and be able to use effective ways to find and express possible solutions.
4. Understand the concepts of matrices and their inverses (if exist), matrix operations, determinants, and be able to perform required computations. Understand how matrices are used to model and solve system of linear equations and be able to perform required appropriate computations.
5. Understand the properties and graphs of parabolas, ellipses, and/or hyperbolas and be able to perform basic related algebraic/graphing operations.
6. Understand the concepts of sequences and series (including the arithmetic and geometric cases) and their applications. Be able to perform basic related algebraic tasks.

Entry-Level Competencies

1st Semester Foreign Language

The standards outlined below reflect college first semester exit competencies and are equivalent to the ACTFL (American Council on the Teaching of Foreign Languages) Novice Mid level and the CEF (Common European Framework) A1 level, with the exception of the optional cultural knowledge section. In each respective section below, students will:

I. Listening

1. Understand short and simple conversations on familiar topics such as myself, family, and my immediate surroundings when spoken slowly and clearly.
2. Sometimes recognize cognates, affixes, and thematic vocabulary to help me understand live or recorded spoken language.

II. Reading

1. Understand familiar names, words, and very simple sentences, for example on notices and posters or in catalogues.
2. Understand basic questions on standardized forms well enough to give important information (name, date of birth, nationality).
3. Distinguish between questions, statements, and exclamations.

III. Writing

1. Write lists, very short messages, post cards, and simple notes.
2. Write simple sentences describing myself and others using memorized phrases on familiar topics such as self, family, and immediate surroundings.
3. Supply basic personal information, such as physical information and preferences, in simple forms.

IV. Speaking

1. Describe self with some hesitation using memorized words and phrases and can ask and answer simple questions on familiar topics such as self, family, and immediate surroundings.
2. Use simple phrases and sentences to describe where they live and people they know, making themselves understood by a sympathetic native speaker.

V. Cultural Knowledge (OPTIONAL)

1. Have increased knowledge and appreciation of a different culture.

Suggested topics for inclusion in a first-semester foreign language course (ex.: Italian)

- Italy and the world
- Families and values in Italy
- Geography, how to place people, regional differences, dialects
- A typical day: work, play, daily habits, meals
- Health issues
- Educational system
- Spending money, bank system
- Modern cities
- Youth and their interests
- Art, artists, authors, films, TV, cartoons, comic books

Freshman Composition

The following competencies are the writing, thinking, communication, and expressive skills identified and recommended by a group of high school teachers, community, and four-year College English instructors. Upon successfully completing the required freshman composition course or sequence of courses, students should be able to do the following:

1. Demonstrate critical and analytical thinking for reading, writing, and speaking.
    a. Participate in active reading and discussion of a variety of texts.
    b. Incorporate ideas and information from readings into own writing.
    c. Identify purpose, main idea, and supporting evidence.
    d. Distinguish between fact and opinion and recognize textual biases.
    e. Distinguish between general and specific information.
    f. Summarize and paraphrase information.
    g. Analyze and evaluate their own and others' speaking and writing.
    h. Communicate effectively in groups by listening, reflecting, and responding appropriately.
    i. Formulate diagnostic questions for resolving issues and identify possible solutions.
    j. Show an awareness of the different modes of comprehension, as well as expression, required for effective oral communication, as opposed to written.
2. Compose sound and effective sentences.
    a. Use a variety of sentence structures correctly.
    b. Understand and employ subordination and coordination to express ideas.
    c. Avoid major sentence-level errors such as fragments, comma splices, fused sentences, etc.
    d. Communicate with few errors in grammar, usage, diction, and mechanics.
3. Compose unified, coherent, and developed paragraphs.
    a. Write focused topic sentences.
    b. Maintain focus and unity of paragraph.
    c. Use details, examples, and facts to develop the paragraph's main idea.
    d. Select and use appropriate patterns of organization for subject audience, and purpose.
    e. Use transitional devices.
    f. Employ appropriate, developed, and wide-ranging vocabulary.
4. Understand and use a recursive writing process to develop strategies for generating, revising, editing, and proofreading texts.
5. Produce rhetorically effective discourse for subject, audience, and purpose.
    a. Organize a logically structured essay that includes an introduction, body, and conclusion.
    b. Develop an essay's controlling idea (thesis or claim) with a balance of generalizations and adequate specific, illustrative details.
    c. Use transitional devices to achieve coherency, unity, and focus.
    d. Use a variety of rhetorical strategies to analyze and respond to topics and texts.
    e. Support position using relevant evidence and a reasoned argument.
    f. Develop and employ a wide-ranging vocabulary appropriate for the argument's rhetorical purposes.
6. Demonstrate effective research and information literacy skills.
    a. Formulate a [manageable] research question.
    b. Access appropriate sources.
    c. Evaluate and analyze information for credibility and accuracy.
    d. Synthesize information from a variety of sources and apply the synthesis to complex situations and problems.
    e. Cite primary and secondary sources using appropriate documentation style such as MLA, Chicago Manual, APA, etc.

Introductory Astronomy provides an ideal tool for teaching the nature of science and the scientific method. In particular, the paradigm shifts are well-known (e.g. geocentric vs. heliocentric models of the solar system) and the relationship between progress in science and invention of new technologies is clear. However, while the use of an astronomy course for teaching the nature of science necessitates teaching some basic physics concepts, it does not require specific subtopics within astronomy to be learned.

What follows is a list of both the physics concepts and astronomical topics that are deemed essential to an astronomy course whose aim is to convey the nature and methods of science.

I. Physics Concepts
The first exit competency must be to specify which physics concepts are essential to understanding the nature of science as taught in astronomy. They include:

1. Newton's laws
2. the nature of light (both waves and particles)
3. color, wavelength and energy
4. Doppler effect
5. electronic structure of atoms
6. spectroscopy and the relationship between (2) and (3)
7. blackbody radiation

In all cases, students should be able to demonstrate an understanding of the concepts and the meaning of the equations, though a rigorous mathematical understanding of formulas is not necessary. That is, they should know that the gravitational force between two bodies is proportion to the masses and inversely proportional to separation squared; they should know that the nature of a blackbody is such that the total power output is proportional to both the size (radius) and the temperature of an object, but that the effect of temperature is stronger than that of size.

II. Astronomical Concepts

1. Students should be able to explain how the motion of astronomical objects is viewed across the sky on various timescales (e.g. daily, monthly, yearly, etc.). Students should:
   a. Know how these apparent motions are manifest themselves in terms of seasons and lunar phases.
   b. Know that scientific relevance of the Zodiac constellations is simply that these constellations define the ecliptic plane (where the sun and planets travel on the sky).
2. Students should know the properties of planetary motion as described by Newton's Laws and Kepler's Laws. They should know how these properties allow us to derive planetary (and in fact stellar) masses.
3. Students should know what the fundamental measurable properties of stars are, such as distance (where applicable), brightness, temperature, and derivable properties such as mass, radius, etc. They should:
   a. Know how those properties are derived.
   b. Know what the Hertzsprung-Russell diagram is and what can be represented on it (populations of stars, evolutionary paths of stars).
   c. Know star nomenclature (main sequence, giant, supergiant, dwarf, etc.).
4. Students should know the hierarchical structure of the universe (solar system, galaxies, cluster galaxies, universe) and the methods of measuring astronomical scales (especially parallax and standard candles, but also Doppler shift and its relationship to Hubble's Law).
5. Students should know what Hubble's Law is and how it was determined. They should know how it can be used both to determine the history and to extrapolate the probable evolution of the universe.

Entry-Level Competencies

Introduction to Chemistry

(One Semester Course)

I. The Scientific Method. The student should be able to demonstrate that:
   1. Science is a process.
   2. Science is based on observations made in the physical world (data).
   3. Hypotheses are made based on these observations.
   4. Hypotheses are tested creating new data and probably new hypotheses.
   5. Laws are summary statements of a large number observations.
   6. Theories are statements that explain observations and predict future observations.
   7. Theories and Laws are subject to change; that Theories and Laws must be supported by the data.

II. Atoms and the Periodic Table. The student should be able to:
   1. Apply appropriate units to express various measurements.
   2. Use the method of dimensional analysis to systematically convert from one unit to another.
   3. Use the Law of Conversation of Mass and Energy.
   4. Quantify the three fundamental particles in any atom, isotope, or ion.
   5. Apply the significance of the electron configuration within an atom or ion and the position of an element on the periodic table.

III. Compounds, Formulas, Reactions, and Equations. The student should be able to:
   1. Classify elemental, ionic, and covalent substances and relate a systematic name to a formula.
   2. Recognize various reaction types and construct a balanced equation describing the formation of products from reactants.
   3. Use a periodic table and a balanced chemical equation to convert (reversibly) between mass to moles of a substance and mole to mole conversions for various changes.
   4. Apply the concept of limiting reactants and the nature of chemical analysis.
   5. Construct working Lewis structures for simple covalent compounds. Classify types of chemical bonding.

IV. Behavior of the States of Matter. The student should be able to:
   1. Use the kinetic-molecular theory to explain the behavior of gases.
   2. Relate the effect of pressure, volume, temperature, or amount changes as stated by the Ideal Gas Equation.
   3. Recognize the nature of intermolecular forces of attraction and their effect on the physical properties of substances.
   4. Predict Hydrogen Bonding and the unique physical properties it manifests in water and other biomolecules.
   5. Determine the energy transfer involved with varying temperature and changes in state using measured conversion factors.

V. Properties of Solutions. The student should be able to:
   1. Use the concept of intermolecular forces to explain the action of solvation of an ionic or covalent solute.
   2. Use dimensional analysis to systematically convert from one unit to any other with concentration units as a connection.
   3. Use the concepts of mass percent, parts per million, molarity, molality, and mole fraction.
   4. Translate a chemical change in a solution into a net ionic equation which discounts the presence of spectator ions.
   5. Characterize the simple action of acids and bases and the nature of the pH scale.

VI. Equilibrium, and Oxidation and Reduction. The student should be able to:
   1. Predict that chemical reactions go to an equilibrium state.
   2. Assign the oxidation states for each element within a formula.
   3. Identify oxidation and reduction reactions.
   4. Identify oxidizing agents and reducing agents.

Entry-Level Competencies

Introduction to Communication

The standards outlined below reflect college course exit competencies for oral communication in research, writing, thinking, communication, expressive skills and presentation identified and recommended by a group community and four-year college communication instructors. Upon successfully completing the required oral communication course, students should be able to do the following:

1. Invention: Demonstrate the ability to use productive imagination for the discovery and evaluation of appropriate arguments relating to a chosen topic through effective research. That is to understand different aspects and points of view pertaining to the topic.
2. Through presentations skills students will demonstrate they understand the basic process of audience analysis by addressing the following:
    a. Identify the target (and secondary) audience in terms of:
        i. Demographics.
        ii. Cultural concerns.
        iii. Gender.
        iv. Knowledge level of subject.
    b. Understand the needs of that audience as it pertains to the presentation.
3. Students will be knowledgeable and able to use, identify, and create speeches for different types of speaking purposes, including:
    a. Informing
    b. Persuading
    c. Entertaining
    d. Motivational
4. Demonstrate effective preparation skills in the organization of speeches into three appropriate sections and preparing each section using the appropriate information and transitions between information and sections. These sections are:
    a. Introduction
    b. Body
    c. Conclusion
5. Utilize and understand the patterns of organization to structure information for each specific type of speech. Students will use parallel ideas and information on different levels of abstraction in these patterns.
    a. Chronological order - the time order in which events took place.
    b. Cause to effect - show how your topic was the result of essential events.
    c. Climax order - work from the least important information to the most important.
    d. Anti-climax order - work from the most to least important information.
    e. Spatial order - describe the physical setup of your topic.
6. Students demonstrate effective skill at composing and developing arguments with appropriate support that is unified, coherent, and fully developed utilizing the tenets of good writing and research.
    a. Formulate a focused [manageable] topic sentence or thesis statement.
    b. Access appropriate sources.
    c. Evaluate and analyze information for credibility and accuracy.
    d. Synthesize information from a variety of sources and apply the synthesis to complex situations and problems.
    e. Use a variety of rhetorical strategies to analyze and respond to topics and texts.
    f. Support position using relevant evidence and a reasoned argument.
    g. Develop and employ a wide-ranging vocabulary appropriate for the argument's rhetorical purposes.

7. Students will understand the complex issue of good delivery and show improved personal confidence and the ability to manage communication apprehension. Increased competencies will be demonstrated in:
    a. Verbal skills.
    b. Non-verbal components.
    c. Articulation, vocal variety, rate, pitch, tone, and enthusiasm.
    d. Appropriate speaking persona.
    e. Credibility, confidence , managing apprehension.
    f. Tie speaking skills into audience listening.
    g. Critique of ones own speaking persona.
8. Students will demonstrate effective listening skills as it relates to critical understanding of speech topics and critique of that speaking, doing the following:
    a. Critical thinking and comprehension of speech topics.
    b. Attending and listening with an open mind free of judgment.
    c. Distinguishing between logical and emotional appeals.
    d. Recall of information.
    e. Evaluation of information and logical organization of presentations.
9. Students will demonstrate that they understand and take part in ethical speaking and listening during presentations. Understanding communication ethics for both speech preparation and critiquing of peer speeches by:
    a. Utilizing responsible research and citing sources.
    b. Preparing speeches with integrity when dealing with information and sources.
    c. Using emotional and logical appeals responsibly.
10. Students will demonstrate and understand the role of public speaking in citizenry and how public speaking can contribute to success in the classroom and society.

1. Students will identify the major areas of philosophy (e.g., metaphysics, epistemology, ethics and political philosophy, and logic) and explain and analyze (perhaps with reference to historical figures) some of the major philosophical problems in several of these areas.
2. Students will identify and evaluate arguments in general and on philosophical topics.
3. Students will develop and defend a thesis on philosophical topics.
4. Students will critically examine their own views, to try to understand those of others, and to appreciate that on complex matters reasonable people can disagree.

Entry-Level Competencies

Introduction to Psychology

The American Psychological Association's Guidelines for the Undergraduate Psychology Major was a primary resource in the development of these competencies. For all of the following, students should:

I. Knowledge Base of Psychology
   1. Explain why psychology is a science
   2. Identify the components of current perspectives in psychology and trace their historical roots.
   3. Gain awareness of ongoing themes in the field of psychology, for example:
      a. nature and nurture
      b. the interaction of mind and body
      c. free will and determinism

II. Research Methods in Psychology
   1. Distinguish between major methods of psychological research.
   2. Recite steps in conducting psychological research.
   3. Identify and critique research reported in popular literature.
   4. Recognize potential sources of bias.
   5. Recognize common descriptive statistics used in psychology.
   6. Identify ethical concerns in conducting psychological research.

III. Critical Thinking Skills in Psychology
   1. Identify limitations of generalizing research.
   2. Challenge claims that arise from myth, stereotype, or untested assumptions by using scientific principles and evidence.

IV. Application of Psychology
   1. Describe major applied areas of psychology.
   2. Identify practical applications of psychology.
   3. Identify applications of psychology as applied to areas such as:
      a. health and medicine
      b. environment
      c. education
      d. public policy

V. Sociocultural and International Awareness
   1. Recognize that psychology is an international discipline.
   2. Provide examples of how interaction among diverse people can challenge conventional understanding of psychological processes and behavior.

Students exiting a college level Introduction to Theatre class should be able to meet the following objectives:
In the case of the first objective, students will meet the requirement through actual physical participation in the making of a theatrical production. For the rest of the objectives students will demonstrate the requirements through the use of clear, correct, and properly cited writing. Students will:

1. Participate (in some way) in the production and/or presentation of a play.
2. Show in writing a familiarity with several playwrights' work.
3. Restate the through-line or theme of a play in writing.
4. Describe how you would complete one of the tasks in presenting live theatre.
5. Show through testing or writing a familiarity with the major movements in the history of theatre.
6. Compose and write a beginning, personal theatre aesthetic with which to evaluate a performance.

Entry-Level Competencies

Introductory to Biology

This document is designed to facilitate the transfer of general education credit for undergraduate, non-majors' biology lecture courses among institutions in the State of Missouri.

All biology lecture courses designed for non-science majors should help students:

1. Develop an understanding of how science is conducted.
2. Develop an understanding of basic biological concepts necessary for biological literacy.
3. Apply higher-level thinking to biology concepts, with emphasis placed on those skills and content needed by educated citizens.
4. Explore biological issues of concern to the public, forming a foundation for life-long learning on scientific issues.

It is expected that faculty teaching an introductory biology course for non-majors will address each of the eight concepts described below. Various approaches are appropriate for teaching each concept. This document provides suggested objectives, but it is not required that every objective be achieved for every concept.

These competencies are not designed to limit the topics in college biology to these eight concepts, but is rather a foundation upon which other topics may be added at the instructor's discretion.

Some aspects of this document were taken either directly or indirectly from the following sources:

- Summary of Group Goals for Introductory Biology from the Missouri Alignment Project: Life Sciences Discipline Workgroup, as summarized by Deborah Allen.
- MIT Hierarchical Introductory Biology Concept Framework (web.mit.edu/bioedgroup/HBCF/CBE-Summer2004.html)
- Quality in Undergraduate Education – Standards for a Non-Majors Biology Course (www2.gsu.edu/~wwwque/standards/biology/biologynonmajors.html)

1. Biology is a scientific discipline based on observations and experiments.
   Objectives to support this concept may include:
   a. Judge the validity of science found in popular media based on the source, methodology used to investigate the science, and the conclusions drawn from the results.
   b. Read and discuss scientific material written for the educated lay reader.
   c. Explain that scientific knowledge is cumulative and subject to changes in interpretation based on new evidence.
2. At the molecular level, biology is based on interactions of three-dimensional molecules and life processes are the result of regulated chemical reactions.
   Objectives to support this concept may include:
   a. Explain why each of the four major categories of organic molecules (carbohydrates, lipids, nucleic acids, proteins) is required for living systems.
   b. Recognize that the metabolism of living things is a series of chemical reactions that transfers energy and atoms between molecules.
   c. Apply an understanding of a molecule's 3-dimensional shape to molecule function (e.g. tertiary protein structure to enzyme function).
3. The cell is the basic unit of life.
   Objectives to support this concept may include:
   a. Determine if an object is living or non-living, prokaryotic or eukaryotic, plant cell or animal cell based on identifying characteristics.
   b. Explain how different parts of the cell contribute to characteristics common to all living things.
   c. Interpret the statement, "Cells arise from other cells," using cellular reproduction as evidence.

4. The structure of DNA guides its own replication, the production of proteins, and the transmission of information to future generations.
   Objectives to support this concept may include:
   a. Describe how the structure of DNA makes it possible for identical copies to be made when cells replicate.
   b. Draw and/or explain the relationship between DNA molecules, chromosomes, genes, alleles and genomes.
   c. Explain that genes are segments of DNA with information for making a protein and that the sequence of bases in that DNA segment dictates the sequence of amino acids in the protein.
   d. Apply an understanding of gene expression to explain why most somatic cells in an individual have the same genetic information, but are structurally and functionally different.
   e. Integrate an understanding of genes and protein synthesis to explain why a mutation can change the resulting protein.
   f. Explain that versions of genes (alleles) are sources of variation in a population and the source of inheritable genetic diseases.
   g. Relate gene expression and phenotype.

5. The physiology of multicellular organisms involves interactions among different levels of organization.
   Objectives to support this concept may include:
   a. Describe the relationship between the following levels of organization: molecule, organelle, cell, tissue, organ, organ system, and organism.
   b. Explain how changing a fundamental physiological process at the molecular level will impact the other levels in the organizational hierarchy (e.g., cystic fibrosis, photosynthesis, etc.)
   c. Define and give examples of homeostasis.
   d. Explain how physiological development is controlled by carefully synchronized chemical signals.

6. Organisms interact with each other and the environment.
   Objectives to support this concept may include:
   a. Give examples of the interdependency of biotic and abiotic components of ecosystems (e.g. nutrient cycling, energy flow, etc.).
   b. Describe the impact of human activity on the environment and how this impact may drive biological change, loss of habitat, and/or species extinction.
   c. Describe a) how human activities contribute to the greenhouse effect, b) the consequences of global climate change, and c) strategies for mitigating these effects.
   d. Explain the relationship between the following levels of organization: organism, population, communities, ecosystems and biosphere.

7. The Theory of Evolution is the central unifying theme of biology.
   Objectives to support this concept may include:
   a. Recognize that the Theory of Evolution explains both the universal characteristics of organisms as well as the diversity of life on Earth.
   b. Explain the importance of variation in a population.
   c. Identify sources of genetic variation (e.g., mutation, genetic recombination during meiosis, and sexual reproduction).
   d. Define evolution as a change in allele frequency.
   e. Explain and give examples of natural selection as the primary mechanism of evolution.
   f. Explain how various tools (e.g., fossil record, radiometric dating, gene modification, comparative morphology, etc.) are used to determine the relationships among species.
   g. Interpret the relationships among organisms in a phylogenetic tree.

8. Biology and society impact each other.
   Objectives to support this concept may include:
   a. Explain how science and technology impact society, as well as how scientists are influenced by the political, social, economic and cultural influences of the time.
   b. Demonstrate a basic understanding of common biotechnology tools (e.g., Recombinant DNA Technology, restriction enzymes, DNA Fingerprinting, Somatic Cell Nuclear Transfer) and explain how the use of these tools has influenced social, cultural, or political issues.
   c. Examine both sides of conflicting opinions on bioethical issues.

Entry-Level Competencies

U.S. History to/from 1877

These exit competencies are applicable for Introductory US History Courses, to or from 1877. Upon successful completion of the course, students should be able to:

1. Understand significant trends, movements, and events in American history.
2. Identify and interpret primary and secondary sources, placing them in the context of their time and place and assessing them for reliability and point of view.
3. Formulate historical arguments based on specific evidence from the sources
4. Demonstrate an understanding of historical chronology and respect the distinctive integrity of the past.
5. Appreciate the multiple political, social, economic, and cultural dimensions of the human experience.
6. Use historical analysis to evaluate cause and effect, comparisons and contrasts, and patterns of continuity and change over time.

Mathematics Entry Level Competencies for Engineering Program

Draft of Postsecondary Optimal Entry-Level Competencies
Curriculum Alignment Initiative
Missouri Department of Higher Education
June 23, 2008

The need for math skills above the general admission level is required for specific METS fields such as engineering. Students entering engineering programs will encounter courses requiring calculus as prerequisites and Calculus I is viewed as basic preparation for any student pursuing a major in engineering. Students are encouraged to arrive with mathematical skills and concepts to prepare them to successfully enter into a Calculus I course, otherwise the time needed to complete precalculus courses may add an extra semester or an extra year to complete the major. Geometry, College Algebra, and Trigonometry are therefore the core entrance competencies into Calculus I and the engineering programs. Geometry preparation must be at the level of learning associated with a college-track course; basic geometry courses are not sufficient.

The Engineering Workgroup deems the items below to be the fundamental concepts or the core entrance competencies that all entering students into engineering should possess in order to successfully matriculate into Calculus I.

Note: All calculations should be performed without the use of technology (i.e., calculator). Some examples of skills are provided in parentheses.

I. Algebra and Real Numbers

1. Use symbols and operators to represent ideas and objects and the relationships existing between them.
2. Understand the relationship between measures of the physical world. (Velocity, distance and time: On a 40-mile car trip to Middletown, NY, you drive the first twenty miles at 40 mph and the last twenty miles at 60 mph. What is your average speed during the trip?)
3. Know and apply the following algebraic properties of the real number system: identity, associative, commutative, inverse, and distributive.
4. Express numbers using scientific notation. (Express 0.004312 in scientific notation.)
5. Write a number as the product of factors. (Write 42 as the product of prime factors.)

II. Radicals and Exponents

1. Convert between radical and rational exponent form. (Transform to the rational exponent form .)
2. Manipulate algebraic expressions that contain integer and rational exponents. (Simplify .)

III. Algebraic Expressions

1. Add, subtract, multiply, and divide algebraic expressions. (Find the remainder when is divided by $x - 2$.)
2. Simplify algebraic expressions. (Expand and simplify $(x - 3)(x - 2)(x - 1)$.)

IV. Linear Equations, Inequalities and Absolute Values

1. Understand the meaning of solutions to linear and rational equations and be able to solve such equations whenever appropriate.
2. Determine the equation of a line. (Find the equation of a straight line passing through the points (2, 1) and (5, 4).)
3. Determine the equation of a line that is parallel or perpendicular to a given line. (Find the equation of a line parallel to the line $2y - 3x = 7$ and passing through the point (1, 2).)
4. Solve 2 simultaneous linear equations by graphing and by substitution. (Use a graph to estimate the point of intersection of the lines $2x + 3y = 7$ and $-x + y = 4$. Verify your result using back substitution.)
5. Solve linear equations and inequalities [graphically and algebraically]. (Solve for x.)
6. Understand the meaning of solutions to linear and absolute value inequalities. Solve linear equations and inequalities with absolute values. (Solve $| x - 4 | \geq 3$ for x.)
7. *Understand the meaning of solutions to linear systems of equations and be able to use effective ways to find and express possible solutions.
8. *Understand the concepts of matrices and their inverses (if exist), matrix operations, determinants, and be able to perform required computations. Understand how matrices are used to model and solve system of linear equations and be able to perform required appropriate computations.

* Recommended Topics

V. Polynomials, Roots of Polynomials, and Rational Inequalities

1. Understand the properties and graphs of polynomial functions.
2. Understand the meaning of zeros of polynomial functions and their connection to the graphs of these functions.
3. Solve for the roots of a polynomial by factoring. (Find the roots of .)
4. Understand the meaning of the Remainder Theorem and its application to evaluating polynomial functions.
5. Understand the meaning of the Factor Theorem and its application to solving polynomial equations.
6. Understand the meaning of solutions to polynomial and rational inequalities and be able to solve such inequalities whenever appropriate.
7. Solve simple polynomial inequalities. (Solve for x.)
8. Solve simple rational inequalities. (Solve for x.)
9. Understand the importance of the Fundamental Theorem of Algebra, its application to polynomial equations, and its connection to complex numbers.

VI. Functions, Graphs and Graphing

1. Identify the independent and dependent variables of a function.
2. Evaluate a function at a point. (Given f (x) = , find f (2a).)
3. Determine the domain and range of a real valued function. (Find the domain and range of the real valued function)
4. Understand the concept of combining functions and be able to perform these operations and recognize the resulted functions and their properties.
5. Evaluate composite functions. (Given h(r) = and g(s) = 2s, find h(a + 2) – g(2a).)
6. Understand the concept of piecewise-defined functions and be able to translate this knowledge to their properties and graphs.
7. Graph equations and inequalities. (Sketch a graph of the function f(x) = for 1<x<5.)
8. Understand the concept of transformation (e.g., shifting, reflecting, stretching, shrinking) of functions and be able to recognize and apply such knowledge when graphing functions.
9. Transform the graph of a known function. (From the graph of f (x), graph
10. g(x) = 2 f (x) – 3.)
11. Understand the invertibility of functions and the relationship between functions inverse to each other, and be able to determine inverse functions when appropriate.
12. Understand the properties and graphs of rational functions and be able to generate appropriate information, including axes, intercepts, asymptotes, and roots.
13. Know the general characteristics and shapes of the graphs of polynomial, logarithm, exponential and trigonometric functions.
14. Understand the properties and graphs of parabolas, ellipses, and/or hyperbolas and be able to perform basic related algebraic/graphing operations.

VII. Equations of Quadratic Type and Complex Numbers

1. Understand the concept of complex numbers and be able to perform operations involving them.
2. Calculate the sum, difference, product, and quotient of complex numbers and express the result in standard form.
3. Understand the meaning of solutions to quadratics equations and be able to solve such equations
4. Solve for real and complex roots using the quadratic formula. (Find the roots of .)
5. Solve a system of quadratic equations in 2 variables by substitution. (Solve the system and y = .)
6. Understand the relationship between quadratic functions and parabolas, and able to connect such knowledge to quadratics equations.

VIII. Logarithmic and Exponential Functions

1. Understand the meaning of solutions to exponential and logarithmic equations and be able to apply the inverse relationship between exponentials and logarithms to equations involving them whenever appropriate.
2. Apply the properties of logarithms and their relationship to exponentials. Be able to perform operations on logarithms. [, is the inverse of the function]. (Evaluate .)
3. Know the properties of the logarithmic and exponential functions and use them to simplify logarithmic expressions. (Express as a single logarithm: .)
4. Know how to solve simple logarithmic and exponential equations. (Solve the equation for x.)
5. Understand the properties and graphs of logarithmic and exponential functions and be able to evaluate and graph such functions.
6. Understand the meaning of exponential growth and decay and apply the knowledge of exponential and logarithmic functions model two applications.

IX. Analytic Geometry

1. Know and apply the distance formula between 2 points. (Find the distance between the two points A(1, 2) and B(–5, –3).)
2. Understand the geometric concepts of angle (e.g. initial side, terminal side, coterminal angles, degree, radian, central angle, circular arc length, circular sector area, and reference angle) and be able to apply appropriate properties.
3. Know and apply the circumference and area formulas for circles, triangles, and rectangles. (If you double the radius of a circle, what happens to its circumference?)
4. Know and apply the surface and volume formulas for cylinders, spheres and rectangular solids.
5. Know the relationship between similar triangles. (A rectangle with base x and height 5 is inscribed in an isosceles triangle with base 10 and height 20. Determine x.)
6. Know and apply the Pythagorean Theorem to simple geometric problems. (Given a rectangle that is 4 ft by 7 ft determine the length of the diagonal.)

X. Use of Mathematics to Solve Application from Various Fields

1. Apply the acquired understanding and knowledge of functions to model appropriate real-world situations and draw mathematical conclusions.
2. Understand the underlining principle of variation and how it is used to model many applications.
3. * Understand the meaning of solutions to systems of nonlinear equations and be able to use effective ways to find and express possible solutions.
4. Understand the meaning of compound interest and apply the knowledge of exponential functions to model this application.
5. * Be able to use trigonometry to model and solve basic applied problems.

*Recommended Topics

XI. Trigonometric Functions & Their Inverses

1. Define each of the 6 trigonometric functions (sin(θ), cos(θ), tan(θ), cot(θ), sec(θ), and csc(θ)) in terms of the sides of a right triangle. (cos(θ) = where x is the adjacent side and r is the hypotenuse.)
2. Define each of the 6 trigonometric functions in terms of sin(θ) and cos(θ). (tan(θ) = .)
3. Understand the concepts of the six trigonometric functions, both in terms of a unit circle and a right triangle, and be able to apply such knowledge.
4. Know the domain and ranges for the sine, cosine, and tangent functions.
5. Convert angle measures between degrees and radians. (Write 120 degrees as a radian measure.)
6. Memorize and use the 30/60/90 and 45/45/90 degree reference triangles.
7. Understand the graphs of the six trigonometric functions and be able to recognize and apply such knowledge (including incorporation of appropriate transformations: shifting, reflecting, stretching, and shrinking).

XII. Trigonometric Identities and Equations

1. Understand the general nature of proving trigonometric identities and be able to perform such task appropriately.
2. Know and apply the trigonometric identity = 1. (Simplify the expression 2)
3. Understand the general nature of trigonometric equations and be able to solve such equations whenever appropriate.
4. Be familiar with useful formulas (e.g. addition and subtraction, double-angle, half-angle, product-to sum, sum-to-product, law of sines, law of cosines, and Heron's) and able to use them appropriately.
5. Understand the concepts and graphs of inverse trigonometric functions and their related properties, and be able to perform appropriate operations.

XIII. Recommended Topics in Trigonometry

1. Understand the trigonometric form and its geometric interpretation for complex numbers, and be able to recognize and perform basic conversions.
2. Understand the multiplication and division of complex numbers in trigonometric form and their respective geometric interpretation.
3. Understand De Moivre's Theorem and its geometric interpretation, and be able to apply the concept to find roots of complex numbers.
4. Understand the basic concepts and operations of two-dimensional vectors, their respective geometric interpretation, and the trigonometric aspect of the inner (dot) product.
5. Geometry of complex numbers.

Engineering & Information Technology Entry-Level Competencies

Postsecondary Optimal Entry-Level Competencies
Curriculum Alignment Initiative
Missouri Department of Higher Education
June 23, 2008, Revised September 2008
With thanks to:
ISTE's National Educational Technology Standards for Students Project
The Missouri Developmental Education Consortium

I. Math
   1. Use the x/y/z coordinate system to depict results of mathematical operations
   2. Understand and apply the metric system
   3. Demonstrate proficiency in defining and referencing ratios
   4. Display skill in working with fractions
   5. Utilize associative, commutative, and distributive properties
   6. Simplify expressions using the order of operations
   7. Distinguish between elements of the sets of real numbers
   8. Distinguish between expressions, equations by type, and inequalities
   9. Solve expressions, equations by type, and inequalities
   10. Use graphs and number lines to depict results of equations and inequalities
   11. Identify, solve, and label systems of equations
   12. Use scientific notation to simplify exponential expressions
   13. Employ polynomial operations and terminology correctly
   14. Solve quadratic equations by factoring and quadratic methods
   15. Perform standard operations with rational expressions
   16. Perform standard operations with terms containing radicals
   17. Apply graphing skills to depict results of equations and inequalities
   18. Use a calculator to perform basic mathematical operations

II. Computer Literacy
Applications—demonstrate a standard proficiency in each of the following:
   1. Word processing
   2. Presentation graphics
   3. Spreadsheet
   4. Web browser
   5. E-mail client
   6. File transfer client
   7. Database fundamentals

III. Computer Savvy
   1. Recognize hardware devices by concept, features, and usage:
      a. Desktop computer—PC or Macintosh
      b. Printer—inkjet, laser, and dot-matrix
      c. Scanner—by type and image quality
      d. Digital camera—by image-capture type(still-shot / motion video)
      e. MP3 player—by make and quality
      f. Removable storage media – USB flash drives and optical discs
   2. Apply existing knowledge when learning new technologies
   3. Demonstrate or develop basic troubleshooting skills
   4. Identify basic networking concepts for local- and wide-area networks
   5. Demonstrate basics for computer security and safe computer use

IV. Computer Language Basics
   1. Identify prominent languages by type and usage
   2. Explain in basic terms how language compilers and interpreters function
   3. Describe basic concepts in logical program flow and control structures
   4. Demonstrate a basic understanding of variables and language syntax
   5. Show basic programming skills by successfully writing and running a simple program

V. Operating Systems Skills
   1. Use operating system features and functions
   2. Manage the operating system via graphical and command-line user interfaces
   3. Distinguish between file formats by type and related application
   4. Demonstrate skill with file management
   5. Explain basic interaction between applications and their parent operating systems

VI. Communication Skills
   1. Demonstrate comprehension skills in written, verbal, and graphic information structures
   2. Interact / collaborate / publish with peers, experts, and others through varied digital environments and media types
   3. Communicate ideas effectively via a variety of media and formats
   4. Contribute to project teams to produce and deliver original works or to solve problems
   5. Develop and demonstrate global cultural understanding and awareness by communicating with learners from non-native cultures
   6. Identify and explain how computers affect interaction in local society and between cultures

VII. Professionalism
   1. Positive Work Ethic
      a. Provide proof of punctual and reliable conduct
      b. Employ a positive mental attitude
      c. Demonstrate honesty in all actions
   2. Personal and Professional Ethics
      a. Embrace and exhibit honesty in personal and professional environments
      b. Understand and follow legal standards applicable to IT
      c. Understand and follow IT business accountability standards
      d. Acknowledge and abide by legal and ethical standards regarding intellectual property
   3. Digital Citizenship
      a. Understand human, cultural, and societal issues related to technology
      b. Advocate and practice safe, legal, and responsible information and technology use
      c. Exhibit a positive attitude for collaboration, learning, and productivity via technology
      d. Demonstrate personal responsibility for lifelong learning

VIII. Research and Information Gathering Skills
   1. Search Engine Usage
      a. Employ effective querying skills
      b. Demonstrate how to search within results
      c. Show how to store and consult search results
   2. Leveraging Digital Tools
      a. Plan strategies to guide inquiry
      b. Gather, organize, analyze, synthesize, and use information from media sources
      c. Consider and select appropriate methods for information delivery

Promoting Public Engagement in School Reform:

Building a New Partnership between Public Education and Public Television Stations in Missouri

Introduction

Through its ambitious Race to the Top program and other education-policy initiatives (Investing in Innovation grants, the Teacher Incentive Fund, Promise Neighborhoods, School Improvement Grants, focusing on science and math, etc.), the Obama Administration has launched an aggressive agenda intended to foster improvement in America's public education system. Frustrated by the lagging achievement of many students, glaring achievement gaps for poor and minority children, and alarming dropout rates in too many American schools, the President is calling for a major national effort to assure that American students are well-prepared to join the nation's economic recovery and be competitive with students from other countries.

But where is the "the public" in today's new debate over public education reform? With much of the electorate preoccupied with economic issues, and with rising public distrust of government in general, large segments of the public appear to be disconnected from the debate over education reform. Despite the worried pronouncements of business and political leaders over the performance of public schools, much of the public is disengaged. And after nearly a decade of rising frustration over the effects of the No Child Left Behind law, many in the education profession are skeptical of the national rhetoric about reform and change in public schools.

So where is the pathway for people in our communities across the state to engage in meaningful dialogue about the condition of their public schools? How can our communities understand the impact of this dialogue on their daily lives and on their future?

Bringing the Public Back

In an effort to bring the public back into an active conversation about school-reform in their communities and across the State of Missouri, education officials and leaders of Missouri's public television stations are proposing a new, formal partnership to support the state's Race to the Top plan and related policy initiatives. This proposal is based on the belief that public education and public broadcasting share many of the same key goals, stakeholders and priorities. We believe this partnership can add a unique dimension to Missouri's school-reform agenda by providing an important vehicle for engaging the public at large, along with specific community stakeholders and professional constituencies, in constructive dialogue about key education issues.

This plan builds on a long-standing partnership between the Department of Elementary and Secondary Education and Missouri's public television stations. These organizations have worked together for years to produce the Jeff City Journal, a traditional current-affairs program broadcast by Missouri's PBS stations and focusing on state government and politics. The program is produced at the Department of Elementary and Secondary Education offices in Jefferson City. The Department operates and maintains a full video-production facility at its headquarters, which is one block away from the state capitol.

There is tremendous potential to easily extend this partnership in order to concentrate on education-related issues and state-level policy debates. Instead of focusing exclusively on

political personalities and current legislative issues, the Department and PBS partners could feature state and national leaders with expertise on critical education topics.

Most importantly, this proposal calls for taking steps beyond traditional "public outreach" and informational programming, in which various experts "explain" the significance of current issues and ideas in the public arena. Missouri leaders propose to use the assets of the public television partners to foster public participation and community engagement in the push for school reform. Public television will support the efforts of state and local education leaders to build public understanding of key education issues and to build public support for public schools throughout the state.

It's important to understand that this plan does not envision a one-way channel of communication. The foundation of this partnership is to work deeply in local communities, using the connection of local school districts to engage the public in meaningful dialogue around education reform. This engagement process provides a continuous feedback loop for the public to better understand the education landscape and for decision-makers to better understand what drives the public discourse around education.

We believe that a creative community-engagement campaign led by PBS television stations and the Department of Elementary and Secondary Education (DESE) will pay dividends by:

- Presenting stories from across the state about how parent and community involvement has contributed to new or improved schools where children are thriving.
- Connecting people with ways to constructively participate in strengthening the perception of public education through a network of trusted community partners mobilized by public media.
- Raising awareness about the impact of community involvement in public education across the state.

- Developing and strengthening connections among educators, schools and community members across the state.
- Providing communities across the state with a DESE-facilitated tool kit for a range of constructive ways that ordinary people can become more involved, from increasing attendance at parent-teacher meetings to establishing a charter school.

Ready for School, Ready for College, Ready for Work

Missouri's Race to the Top plan articulates policies and activities to elevate the performance of the state's public education system in general and, specifically, to assure that all children who are served by public schools will be "ready for school, ready for college and ready for work." The Race to the Top plan also focuses on the state's key strategies for achieving significant gains in student and school performance. These strategies include:

- Developing a model state curriculum and assessment plan
- Expanding early childhood education opportunities (preschool) for all Missouri children
- Focusing on teacher and leader effectiveness
- Focusing on science, technology, engineering and mathematics – "STEM"
- Creating a statewide "turnaround strategy" for assisting chronically low-performing schools

Each of these topics involves subject matter that is not well understood by many educators, parents, policymakers and other stakeholders. In the not-too-distant future, for example, it is likely that traditional paper-and-pencil testing will be replaced, almost completely, by online assessment. Missouri's Race to the Top plan is built on a vision that would incorporate online assessment into a comprehensive digital environment that empowers teachers with model curricula, lesson plans, instructional resources and other tools – instantly available to them and their students.

While few American schools have sufficient infrastructure or bandwidth to support such digital teaching tools, it is clear that the nation's public education system is moving toward the adoption of such technology. Today's students are well ahead of most of their teachers in their ability and willingness to use such technology in their daily lives.

Most Missourians and most Americans, however, can only visualize the traditional, book-based ("analog") classrooms in which they grew up. Few educators, citizens – or policymakers – grasp the ramifications of the digital revolution for schools, for the training of teachers, for parents and for students. What will the digital classroom of tomorrow actually look like? Will students be able to "telecommute" to school? What if teachers, students – and parents – had almost immediate and *simultaneous* access to information and reports about student progress? What if school leaders were able to visit classrooms, record observations of teachers on video, and use that information as a feedback and evaluation tool?

The technology already exists for schools to operate in a style that is far more open, immediate and connected. What schools lack are the infrastructure, policies, technical know-how, incentives - and public support - to implement such sweeping innovations.

This is only one example of the many issues that could be explored by education officials and public broadcasters as they work to promote a vision of classrooms that is markedly different from what today's adults experienced. Missouri's public television stations can bring their own digital expertise to the schoolhouse and tell the story of teachers and students who are successfully adopting the new tools of teaching and learning – along with the challenges that schools will face in incorporating innovative practices.

Proposed Activities

The Department of Elementary and Secondary Education believes that its public television partners have the capacity, reach and credibility with stakeholders to bring a new and compelling dimension to the state's efforts to promote public understanding of, and support for, an ambitious vision for school change.

There are many timely topics that could be explored through collaboration among the Department of Elementary and Secondary Education, PBS stations, local school districts, universities and professional associations, including: "merit pay," tenure and other issues related to teacher and leader effectiveness; preparing teachers for "hard-to-staff" schools; charter schools; bullying and other safety issues; the impact of quality preschool programs; and many others.

In order to support the key activities outlined in Missouri's Race to the Top plan, however, the Department proposes to work with the PBS partners on these projects:

1. **Effective Teaching in Today's Classrooms.**
   What does "good teaching" look like in schools that serve diverse learners? How has it changed? How do we identify, recruit, train, induct and support teachers so that they find fulfillment and all of their students achieve success?

2. **How Is Technology Changing Teaching and Learning?**
   Can the U.S. keep pace with other nations that are more aggressive in connecting their citizens to advanced communications and computing tools? How does a highly "connected" classroom differ from the analog classrooms of yesterday and today? Can we afford to extend broadband capacity "the last mile" to every schoolhouse and classroom in the state? Will online learning ever replace traditional classrooms for children?

3. **Turnaround Stories**

   What are the key issues and obstacles in turning around low-performing schools? Can so-called "dropout factories" be fixed? What are the traits of leaders who are able to succeed in such environments? How can school districts recruit and reward people to work in the most challenging schools? Are we willing to spend the money needed to achieve success? What are the human stories (students, parents and teachers) associated with such schools?

We believe that a new and dynamic partnership between state education officials and PBS partners in Missouri – based on the state's school-reform priorities – can help rally public support for the improvement of public education in the Show-Me State. PBS providers can help mobilize and engage community stakeholders in issues affecting them locally as well as issues affecting the state as a whole. PBS partners can help state education leaders multiply their communication efforts and go beyond traditional print media and other outreach methods to reach new audiences and younger audiences.

Missouri Department of Elementary and Secondary Education
Race to the Top MOU

Please complete and fax to **573-526-7338**.

Missouri Participating LEA Memorandum of Understanding

This Memorandum of Understanding ("MOU") is entered into by and between Missouri ("State") and the Van-Far School District ("Participating LEA"). The purpose of this agreement is to establish a framework of collaboration, as well as to articulate specific roles and responsibilities in support of the State in its implementation of an approved Race to the Top grant project.

I. SCOPE OF WORK

Exhibit 1, the Preliminary Scope of Work, indicates which portions of the State's proposed reform plans ("State Plan") the Participating LEA is agreeing to implement. (Note that, in order to participate, the LEA must agree to implement all of the State Plan.)

II. PROJECT ADMINISTRATION

A. PARTICIPATING LEA RESPONSIBILITIES

In assisting the State in implementing the tasks and activities described in the State's Race to the Top application, the Participating LEA subgrantee will:

1) Implement the LEA plan as identified in Exhibit I of this agreement;
2) Actively participate in all relevant convenings, communities of practice, or other practice-sharing events that are organized or sponsored by the State or by the U.S. Department of Education ("ED");
3) Post to any website specified by the State or ED, in a timely manner, all non-proprietary products and lessons learned developed using funds associated with the Race to the Top grant;
4) Participate, as requested, in any evaluations of this grant conducted by the State or ED;
5) Be responsive to State or ED requests for information including the status of the project, project implementation, outcomes, and any problems anticipated or encountered;
6) Participate in meetings and telephone conferences with the State to discuss (a) progress of the project, (b) potential dissemination of resulting non-proprietary products and lessons learned, (c) plans for subsequent years of the Race to the Top grant period, and (d) other matters related to the Race to the Top grant and associated plans.

B. STATE RESPONSIBILITIES

In assisting Participating LEAs in implementing their tasks and activities described in the State's Race to the Top application, the State grantee will:

1) Work collaboratively with, and support the Participating LEA in carrying out the LEA Plan as identified in Exhibit I of this agreement;
2) Distribute in a timely manner, the LEA's portion of Race to the Top grant funds during the course of the project period and in accordance with the LEA Plan identified in Exhibit I;
3) Provide feedback on the LEA's status updates, annual reports, any interim reports, and project plans and products; and
4) Identify sources of technical assistance for the project.

C. JOINT RESPONSIBILITIES

1) The State and the Participating LEA will each appoint a key contact person for the Race to the Top grant.
2) These key contacts from the State and the Participating LEA will maintain frequent communication to facilitate cooperation under this MOU.
3) State and Participating LEA grant personnel will work together to determine appropriate timelines for project updates and status reports throughout the whole grant period.
4) State and Participating LEA grant personnel will negotiate in good faith to continue to achieve the overall goals of the State's Race to the Top grant, even when the State Plan requires modifications that affect the Participating LEA, or when the LEA Plan requires modifications.

D. STATE RECOURSE FOR LEA NON-PERFORMANCE

If the State determines that the LEA is not meeting its goals, timelines, budget, or annual targets or is not fulfilling other applicable requirements, the State grantee will take appropriate enforcement action, which could include a collaborative process between the State and the LEA, or any of the enforcement measures that are detailed in 34 CFR section 80.43 including putting the LEA on reimbursement payment status, temporarily withholding funds, or disallowing costs.

III. ASSURANCES

The Participating LEA hereby certifies and represents that it:

1) Has all requisite power and authority to execute this MOU;
2) Is familiar with the State's Race to the Top grant application and is supportive of and committed to working on all portions of the State Plan;
3) Agrees to be a Participating LEA and will implement those portions of the State Plan indicated in Exhibit I, if the State application is funded;
4) Will provide a Final Scope of Work to be attached to this MOU as Exhibit II only if the State's application is funded, will do so in a timely fashion but no later than 90 days after a grant is awarded; and will describe in Exhibit II the LEA's specific goals, activities, timelines, budgets, key personnel, and annual targets for key performance measures ("LEA Plan ") in a manner that is consistent with the Preliminary Scope of Work (Exhibit I) and with the State Plan; and
5) Will comply with all of the terms of the Grant, the State's subgrant, and all applicable Federal and State laws and regulations, including laws and regulations applicable to the Program, and the applicable provisions of EDGAR (34 CFR Parts 75, 77, 79, 80, 82, 84, 85, 86, 97, 98, and 99).

IV. MODIFICATIONS

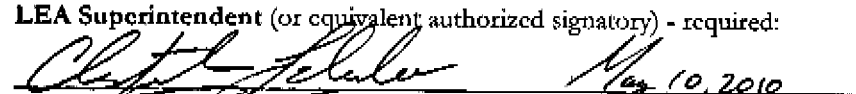
This Memorandum of Understanding may be amended only by written agreement signed by each of the parties involved, and in consultation with ED.

V. DURATION/TERMINATION

This Memorandum of Understanding shall be effective, beginning with the date of the last signature hereon and, if a grant is received, ending upon the expiration of the grant project period, or upon mutual agreement of the parties, whichever occurs first.

VI. SIGNATURES

LEA Superintendent (or equivalent authorized signatory) - required:



Signature/Date

Christopher Felmlee, Superintendent of Schools

Print Name/Title

President of Local School Board (or equivalent, if applicable):

Kevin R Motley

Signature/Date

Kevin Motley, Van-Far School Board President

Print Name/Title

Local Teachers' Union Leader (if applicable):

Kelly Hopke

Signature/Date

Kelly Hopke, Van-Far Teacher's Association

Print Name/Title

Authorized State Official - required:

By its signature below, the State hereby accepts the LEA as a Participating LEA.

Chris L Nicastro 5/14/2010

Signature/Date

Chris L. Nicastro, Commissioner of Education

Print Name/Title

EXHIBIT I – PRELIMINARY SCOPE OF WORK

LEA hereby agrees to participate in implementing the State Plan in each of the areas identified below.

Missouri Education Reform Plan

State Actions	LEA Actions
B. Standards and Assessments	
1. Develop a model P-12 curriculum aligned with the Common Core and College and Career Ready Standards.	1. Implement the model P-12 curriculum **OR** develop a local model P-12 curriculum aligned with the Common Core and College and Career Ready Standards.
2. Develop grade/subject-specific professional development providing evidence- and research-based support for the implementation of the model curriculum.	2. Focus local professional development resources and plans on the implementation of the new model curriculum **OR** the updated local curriculum.
3. Coordinate, support, and develop models for the expansion of the number of advanced course offerings/dual credit, Internship, and STEM opportunities.	3. Expand the number of advanced course offerings/dual credit, internship, and STEM opportunities.
C. Data Systems to Support Instruction	
1. Provide data analysis training including data team certification in all participating districts or charter schools by 2011 and in all participating schools by 2012.	1. Send teams to gain data-team certification to support school district, school building, and student data analysis and data-driven decision making.
2. Provide research incentives for the investigation of narrowly-defined questions focused on closing gaps in achievement and identifying best practices in effective instruction and school turnaround.	2. Collaborate with researchers to study and identify best practices relating to closing achievement gaps, effective instruction, and school turnaround.

D. Great Teachers and Leaders	
1. Convene all stakeholders to develop state models for educator evaluation that include measures of student performance.	1. Work with local stakeholders to adopt state models for educator evaluation that include measures of student performance, **OR** develop local models that include measures of student performance.
2. Develop a model for linking student performance, teacher practices, and leadership decisions. Provide training and professional development on the use of the data.	2. Adopt the state model for linking student performance, teacher practices and leadership decisions, **OR** develop a local model that meets the criteria. Participate in professional development and training for the use of linked student performance, teacher practice, and leadership decision data to improve student performance.
3. Conduct audits of participating school districts' and charter schools' implementation of new evaluation models.	3. Conduct annual evaluations for all teachers and leaders using new evaluation models.
E. Turning Around the Lowest-Achieving Schools	
1. Develop and implement a Missouri Turnaround Model to train teachers and leaders in turning around the state's lowest-achieving districts, schools, and groups of students.	1. Implement the Missouri Turnaround Model, School Improvement Plans, or targeted sub-group interventions as appropriate in the school district, charter school, or school.
2. Develop and implement a model for a braided, community-based system of support for students. Provide training and technical support for participating school districts and charter schools.	2. Adopt the state model, **OR** develop a local model for a braided, community-based system of support for students.

Please fax completed MOU to **573-526-7338**

or mail to:

Commissioner of Education
Department of Elementary and Secondary Education
PO Box 480
Jefferson City, MO 65102

May 2010

Missouri Department of Elementary and Secondary Education
Race to the Top MOU

Please complete and fax to **573-526-7338.**

Missouri Participating LEA Memorandum of Understanding

This Memorandum of Understanding ("MOU") is entered into by and between Missouri ("State") and Meadow Heights R-II ("Participating LEA"). The purpose of this agreement is to establish a framework of collaboration, as well as to articulate specific roles and responsibilities in support of the State in its implementation of an approved Race to the Top grant project.

I. SCOPE OF WORK

Exhibit I, the Preliminary Scope of Work, indicates which portions of the State's proposed reform plans ("State Plan") the Participating LEA is agreeing to implement. (Note that, in order to participate, the LEA must agree to implement all of the State Plan.)

II. PROJECT ADMINISTRATION

A. PARTICIPATING LEA RESPONSIBILITIES

In assisting the State in implementing the tasks and activities described in the State's Race to the Top application, the Participating LEA subgrantee will:

1) Implement the LEA plan as identified in Exhibit I of this agreement;
2) Actively participate in all relevant convenings, communities of practice, or other practice-sharing events that are organized or sponsored by the State or by the U.S. Department of Education ("ED");
3) Post to any website specified by the State or ED, in a timely manner, all non-proprietary products and lessons learned developed using funds associated with the Race to the Top grant;
4) Participate, as requested, in any evaluations of this grant conducted by the State or ED;
5) Be responsive to State or ED requests for information including the status of the project, project implementation, outcomes, and any problems anticipated or encountered;
6) Participate in meetings and telephone conferences with the State to discuss (a) progress of the project, (b) potential dissemination of resulting non-proprietary products and lessons learned, (c) plans for subsequent years of the Race to the Top grant period, and (d) other matters related to the Race to the Top grant and associated plans.

B. STATE RESPONSIBILITIES

In assisting Participating LEAs in implementing their tasks and activities described in the State's Race to the Top application, the State grantee will:

1) Work collaboratively with, and support the Participating LEA in carrying out the LEA Plan as identified in Exhibit I of this agreement;
2) Distribute in a timely manner, the LEA's portion of Race to the Top grant funds during the course of the project period and in accordance with the LEA Plan identified in Exhibit I;
3) Provide feedback on the LEA's status updates, annual reports, any interim reports, and project plans and products; and
4) Identify sources of technical assistance for the project.

C. JOINT RESPONSIBILITIES

1) The State and the Participating LEA will each appoint a key contact person for the Race to the Top grant.
2) These key contacts from the State and the Participating LEA will maintain frequent communication to facilitate cooperation under this MOU.
3) State and Participating LEA grant personnel will work together to determine appropriate timelines for project updates and status reports throughout the whole grant period.
4) State and Participating LEA grant personnel will negotiate in good faith to continue to achieve the overall goals of the State's Race to the Top grant, even when the State Plan requires modifications that affect the Participating LEA, or when the LEA Plan requires modifications.

D. STATE RECOURSE FOR LEA NON-PERFORMANCE

If the State determines that the LEA is not meeting its goals, timelines, budget, or annual targets or is not fulfilling other applicable requirements, the State grantee will take appropriate enforcement action, which could include a collaborative process between the State and the LEA, or any of the enforcement measures that are detailed in 34 CFR section 80.43 including putting the LEA on reimbursement payment status, temporarily withholding funds, or disallowing costs.

III. ASSURANCES

The Participating LEA hereby certifies and represents that it:

1) Has all requisite power and authority to execute this MOU;
2) Is familiar with the State's Race to the Top grant application and is supportive of and committed to working on all portions of the State Plan;
3) Agrees to be a Participating LEA and will implement those portions of the State Plan indicated in Exhibit I, if the State application is funded;
4) Will provide a Final Scope of Work to be attached to this MOU as Exhibit II only if the State's application is funded; will do so in a timely fashion but no later than 90 days after a grant is awarded; and will describe in Exhibit II the LEA's specific goals, activities, timelines, budgets, key personnel, and annual targets for key performance measures ("LEA Plan ") in a manner that is consistent with the Preliminary Scope of Work (Exhibit I) and with the State Plan; and
5) Will comply with all of the terms of the Grant, the State's subgrant, and all applicable Federal and State laws and regulations, including laws and regulations applicable to the Program, and the applicable provisions of EDGAR (34 CFR Parts 75, 77, 79, 80, 82, 84, 85, 86, 97, 98, and 99).

IV. MODIFICATIONS

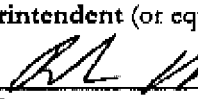
This Memorandum of Understanding may be amended only by written agreement signed by each of the parties involved, and in consultation with ED.

V. DURATION/TERMINATION

This Memorandum of Understanding shall be effective, beginning with the date of the last signature hereon and, if a grant is received, ending upon the expiration of the grant project period, or upon mutual agreement of the parties, whichever occurs first.

VI. SIGNATURES

LEA Superintendent (or equivalent authorized signatory) - required:



5-10-10

Signature/Date

Rob Huff, Superintendent

Print Name/Title

President of Local School Board (or equivalent, if applicable):

Danny D. Tallent 10 May 10

Signature/Date

Danny D. Tallent / President

Print Name/Title

Local Teachers' Union Leader (if applicable):

Signature/Date

Print Name/Title

Authorized State Official - required:
By its signature below, the State hereby accepts the LEA as a Participating LEA.

Chris L Nicastro 5/14/2010

Signature/Date

Chris L. Nicastro, Commissioner of Education

Print Name/Title

Missouri Department of Elementary and Secondary E lucation
Race to the Top MOU

Please complete and fax to **573-526-7338**.

Missouri Participating LEA Memorandum of Underst: nding

This Memorandum of Understanding ("MOU") is entered into by and betw een Missouri ("State") and Ozark R-6 School District ("Participating LEA"). The purpose of this agreement is to establish a framework of collaboration, as well as to articulate specific roles and responsibilities in sup port of the State in its implementation of an approved Race to the Top grant project.

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3) Provide feedback on the LEA's status updates, annual reports, any inter m reports, and project plans and products; and
4) Identify sources of technical assistance for the project.

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1) The State and the Participating LEA will each appoint a key contact person for the Race to the Top grant.
2) These key contacts from the State and the Participating LEA will maintain frequent communication to facilitate cooperation under this MOU.
3) State and Participating LEA grant personnel will work together to determine appropriate timelines for project updates and status reports throughout the whole grant period.
4) State and Participating LEA grant personnel will negotiate in good faith to continue to achieve the overall goals of the State's Race to the Top grant, even when the State Plan requires modifications that affect the Participating LEA, or when the LEA Plan requires modifications.

D. STATE RECOURSE FOR LEA NON-PERFORMANCE

If the State determines that the LEA is not meeting its goals, timelines, budget, or annual targets or is not fulfilling other applicable requirements, the State grantee will take appropriate enforcement action, which could include a collaborative process between the State and the LEA, or any of the enforcement measures that are detailed in 34 CFR section 80.43 including putting the LEA on reimbursement payment status, temporarily withholding funds, or disallowing costs.

III. ASSURANCES

The Participating LEA hereby certifies and represents that it:

1) Has all requisite power and authority to execute this MOU;
2) Is familiar with the State's Race to the Top grant application and is supportive of and committed to working on all portions of the State Plan;
3) Agrees to be a Participating LEA and will implement those portions of the State Plan indicated in Exhibit I, if the State application is funded;
4) Will provide a Final Scope of Work to be attached to this MOU as Exhibit II only if the State's application is funded; will do so in a timely fashion but no later than 90 days after a grant is awarded; and will describe in Exhibit II the LEA's specific goals, activities, timelines, budgets, key personnel, and annual targets for key performance measures ("LEA Plan") in a manner that is consistent with the Preliminary Scope of Work (Exhibit I) and with the State Plan; and
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IV. MODIFICATIONS

This Memorandum of Understanding may be amended only by written agreement signed by each of the parties involved, and in consultation with ED.

V. DURATION/TERMINATION

This Memorandum of Understanding shall be effective, beginning with the date of the last signature hereon and, if a grant is received, ending upon the expiration of the grant project period, or upon mutual agreement of the parties, whichever occurs first.

Ozark R-VI School District Additional Addendum

Per Commissioner Nicastro's statements in e-mail dated Wednesday, May 5, 2010, the Ozark R-VI School District reserves the right to terminate this agreement for any reason after review of the final proposal.

VI. SIGNATURES

LEA Superintendent (or equivalent authorized signatory) - required:

Gordon T. Pace 5-12-10

Signature/Date

Gordon T. Pace Superintendent

Print Name/Title

President of Local School Board (or equivalent, if applicable):

5-12-2010

Signature/Date

Chuck Fugate, Jr. Pres. Ozark Sch. Bd.

Print Name/Title

Local Teachers' Union Leader (if applicable): NA

Signature/Date

Print Name/Title

Authorized State Official - required:

By its signature below, the State hereby accepts the LEA as a Participating LEA.

Chris L Nicastro 5/14/2010

Signature/Date

Chris L. Nicastro, Commissioner of Education

Print Name/Title

FAX

Kansas City, Missouri
SCHOOL DISTRICT

To:	Missouri Department of Elementary and Secondary Education	**From:**	J.Wm. Covington, Ed. D
Fax:	573-526-7338	**Pages:**	7
Phone:		**Date:**	Thursday, May 13, 2010
Re:	Race to the Top MOU	**CC:**	

☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

Comments:

Commissioner Dr. Chris Nicastro,

Attached please find the signed Race to the Top MOU. We will send the originals by priority mail.

Thanks,
J. Wm. Covington/dg

This fax and any attachments are for the sole use of the intended recipient(s) and may contain proprietary, confidential, trade secret or privileged information. Any unauthorized review, use, disclosure or distribution is prohibited and may be a violation of law. If you are not the intended recipient or a person responsible for delivering this message to an intended recipient, please contact the sender and destroy all copies of the original message.

Missouri Department of Elementary and Secondary Education
Race to the Top MOU

Please complete and fax to **573-526-7338**.

Missouri Participating LEA Memorandum of Understanding

This Memorandum of Understanding ("MOU") is entered into by and between Missouri ("State") and KCMSD ("Participating LEA"). The purpose of this agreement is to establish a framework of collaboration, as well as to articulate specific roles and responsibilities in support of the State in its implementation of an approved Race to the Top grant project.

I. SCOPE OF WORK

Exhibit I, the Preliminary Scope of Work, indicates which portions of the State's proposed reform plans ("State Plan") the Participating LEA is agreeing to implement. (Note that, in order to participate, the LEA must agree to implement all of the State Plan.)

II. PROJECT ADMINISTRATION

A. PARTICIPATING LEA RESPONSIBILITIES

In assisting the State in implementing the tasks and activities described in the State's Race to the Top application, the Participating LEA subgrantee will:

1) Implement the LEA plan as identified in Exhibit I of this agreement;
2) Actively participate in all relevant convenings, communities of practice, or other practice-sharing events that are organized or sponsored by the State or by the U.S. Department of Education ("ED");
3) Post to any website specified by the State or ED, in a timely manner, all non-proprietary products and lessons learned developed using funds associated with the Race to the Top grant;
4) Participate, as requested, in any evaluations of this grant conducted by the State or ED;
5) Be responsive to State or ED requests for information including the status of the project, project implementation, outcomes, and any problems anticipated or encountered;
6) Participate in meetings and telephone conferences with the State to discuss (a) progress of the project, (b) potential dissemination of resulting non-proprietary products and lessons learned, (c) plans for subsequent years of the Race to the Top grant period, and (d) other matters related to the Race to the Top grant and associated plans.

B. STATE RESPONSIBILITIES

In assisting Participating LEAs in implementing their tasks and activities described in the State's Race to the Top application, the State grantee will:

1) Work collaboratively with, and support the Participating LEA in carrying out the LEA Plan as identified in Exhibit I of this agreement;
2) Distribute in a timely manner, the LEA's portion of Race to the Top grant funds during the course of the project period and in accordance with the LEA Plan identified in Exhibit I;
3) Provide feedback on the LEA's status updates, annual reports, any interim reports, and project plans and products; and
4) Identify sources of technical assistance for the project.

C. JOINT RESPONSIBILITIES

1) The State and the Participating LEA will each appoint a key contact person for the Race to the Top grant.
2) These key contacts from the State and the Participating LEA will maintain frequent communication to facilitate cooperation under this MOU.
3) State and Participating LEA grant personnel will work together to determine appropriate timelines for project updates and status reports throughout the whole grant period.
4) State and Participating LEA grant personnel will negotiate in good faith to continue to achieve the overall goals of the State's Race to the Top grant, even when the State Plan requires modifications that affect the Participating LEA, or when the LEA Plan requires modifications.

D. STATE RECOURSE FOR LEA NON-PERFORMANCE

If the State determines that the LEA is not meeting its goals, timelines, budget, or annual targets or is not fulfilling other applicable requirements, the State grantee will take appropriate enforcement action, which could include a collaborative process between the State and the LEA, or any of the enforcement measures that are detailed in 34 CFR section 80.43 including putting the LEA on reimbursement payment status, temporarily withholding funds, or disallowing costs.

III. ASSURANCES

The Participating LEA hereby certifies and represents that it:

1) Has all requisite power and authority to execute this MOU;
2) Is familiar with the State's Race to the Top grant application and is supportive of and committed to working on all portions of the State Plan;
3) Agrees to be a Participating LEA and will implement those portions of the State Plan indicated in Exhibit I, if the State application is funded;
4) Will provide a Final Scope of Work to be attached to this MOU as Exhibit II only if the State's application is funded; will do so in a timely fashion but no later than 90 days after a grant is awarded; and will describe in Exhibit II the LEA's specific goals, activities, timelines, budgets, key personnel, and annual targets for key performance measures ("LEA Plan ") in a manner that is consistent with the Preliminary Scope of Work (Exhibit I) and with the State Plan; and
5) Will comply with all of the terms of the Grant, the State's subgrant, and all applicable Federal and State laws and regulations, including laws and regulations applicable to the Program, and the applicable provisions of EDGAR (34 CFR Parts 75, 77, 79, 80, 82, 84, 85, 86, 97, 98, and 99).

IV. MODIFICATIONS

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V. DURATION/TERMINATION

This Memorandum of Understanding shall be effective, beginning with the date of the last signature hereon and, if a grant is received, ending upon the expiration of the grant project period, or upon mutual agreement of the parties, whichever occurs first.

VI. SIGNATURES

LEA Superintendent (or equivalent authorized signatory) - required:

J.Wm. Covington

Signature/Date

J.Wm. Covington, Superintendent

Print Name/Title

President of Local School Board (or equivalent, if applicable):

Signature/Date

5-11-10 / School Board President

Print Name/Title

Local Teachers' Union Leader (if applicable):

Signature/Date 5/13/10

Andrea Flinders President KCFT-SRP

Print Name/Title

Authorized State Official - required:

By its signature below, the State hereby accepts the LEA as a Participating LEA.

Chris L Nicastro 5/14/2010

Signature/Date

Chris L. Nicastro, Commissioner of Education

Print Name/Title

EXHIBIT I – PRELIMINARY SCOPE OF WORK

LEA hereby agrees to participate in implementing the State Plan in each of the areas identified below.

Missouri Education Reform Plan

State Actions	LEA Actions
B. Standards and Assessments	
1. Develop a model P-12 curriculum aligned with the Common Core and College and Career Ready Standards.	1. Implement the model P-12 curriculum **OR** develop a local model P-12 curriculum aligned with the Common Core and College and Career Ready Standards.
2. Develop grade/subject-specific professional development providing evidence- and research-based support for the implementation of the model curriculum.	2. Focus local professional development resources and plans on the implementation of the new model curriculum **OR** the updated local curriculum.
3. Coordinate, support, and develop models for the expansion of the number of advanced course offerings/dual credit, internship, and STEM opportunities.	3. Expand the number of advanced course offerings/dual credit, internship, and STEM opportunities.
C. Data Systems to Support Instruction	
1. Provide data analysis training including data team certification in all participating districts or charter schools by 2011 and in all participating schools by 2012.	1. Send teams to gain data-team certification to support school district, school building, and student data analysis and data-driven decision making.
2. Provide research incentives for the investigation of narrowly-defined questions focused on closing gaps in achievement and identifying best practices in effective instruction and school turnaround.	2. Collaborate with researchers to study and identify best practices relating to closing achievement gaps, effective instruction, and school turnaround.

D. Great Teachers and Leaders	
1. Convene all stakeholders to develop state models for educator evaluation that include measures of student performance.	1. Work with local stakeholders to adopt state models for educator evaluation that include measures of student performance, **OR** develop local models that include measures of student performance.
2. Develop a model for linking student performance, teacher practices, and leadership decisions. Provide training and professional development on the use of the data.	2. Adopt the state model for linking student performance, teacher practices and leadership decisions, **OR** develop a local model that meets the criteria. Participate in professional development and training for the use of linked student performance, teacher practice, and leadership decision data to improve student performance.
3. Conduct audits of participating school districts' and charter schools' implementation of new evaluation models.	3. Conduct annual evaluations for all teachers and leaders using new evaluation models.
E. Turning Around the Lowest-Achieving Schools	
1. Develop and implement a Missouri Turnaround Model to train teachers and leaders in turning around the state's lowest-achieving districts, schools, and groups of students.	1. Implement the Missouri Turnaround Model, School Improvement Plans, or targeted sub-group interventions as appropriate in the school district, charter school, or school.
2. Develop and implement a model for a braided, community-based system of support for students. Provide training and technical support for participating school districts and charter schools.	2. Adopt the state model, **OR** develop a local model for a braided, community-based system of support for students.

Please fax completed MOU to **573-526-7338**

or mail to:

Commissioner of Education
Department of Elementary and Secondary Education
PO Box 480
Jefferson City, MO 65102

May 2010

Kansas City, Missouri
SCHOOL DISTRICT
At the heart of success.

Kansas City Federation of Teachers and School Related Personnel
aft
Local 691, AFT/AFL-CIO

May 12, 2010

ADDENDUM

RACE TO THE TOP MOU

The Kansas City Missouri School District (KCMSD) and the Kansas City Federation of Teachers & School-Related Personnel (KCFT & SRP) agree to consult with and bargain in good faith over matters within the scope of the Missouri Department of Elementary and Secondary Education Race to the Top MOU, assuming the grant is funded. The parties further agree that implementation will only take place where there is mutual agreement between the KCMSD and the KCFT & SRP. Nothing in this MOU shall be construed to alter or otherwise affect the rights, remedies, and procedures afforded employees of the school district under Federal, State, or Local laws (including applicable regulations or court orders) or under the terms of collective bargaining agreements, memorandums of understanding, or other agreements between such employees and the school district.

Dr. John Wm. Covington, Superintendent
KCMSD

Andrea Flinders, President
KCFT & SRP

COUCH A+ School

Couch R-1 School
Rt. 1 Box 1187, Myrtle, MO 65778
Phone: 417/938-4212
Fax: 417/938-4267

FAX COVER SHEET

DATE: 5-5-2010 TOTAL PAGES: 4

ATTN: Robin Coffman FAX NUMBER: 573-526-7328

FROM: William T. Bull - Superintendent

REASON/COMMENTS: Missouri Participating LEA Memorandum of Understanding

Missouri Department of Elementary and Secondary Education
Race to the Top MOU

Please complete and fax to **573-526-7338.**

Missouri Participating LEA Memorandum of Understanding

This Memorandum of Understanding ("MOU") is entered into by and between Missouri ("State") and Couch R-I ("Participating LEA"). The purpose of this agreement is to establish a framework of collaboration, as well as to articulate specific roles and responsibilities in support of the State in its implementation of an approved Race to the Top grant project.

I. SCOPE OF WORK

Exhibit I, the Preliminary Scope of Work, indicates which portions of the State's proposed reform plans ("State Plan") the Participating LEA is agreeing to implement. (Note that, in order to participate, the LEA must agree to implement all of the State Plan.)

II. PROJECT ADMINISTRATION

A. PARTICIPATING LEA RESPONSIBILITIES

In assisting the State in implementing the tasks and activities described in the State's Race to the Top application, the Participating LEA subgrantee will:

1) Implement the LEA plan as identified in Exhibit I of this agreement;
2) Actively participate in all relevant convenings, communities of practice, or other practice-sharing events that are organized or sponsored by the State or by the U.S. Department of Education ("ED");
3) Post to any website specified by the State or ED, in a timely manner, all non-proprietary products and lessons learned developed using funds associated with the Race to the Top grant;
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6) Participate in meetings and telephone conferences with the State to discuss (a) progress of the project, (b) potential dissemination of resulting non-proprietary products and lessons learned, (c) plans for subsequent years of the Race to the Top grant period, and (d) other matters related to the Race to the Top grant and associated plans.

B. STATE RESPONSIBILITIES

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1) Work collaboratively with, and support the Participating LEA in carrying out the LEA Plan as identified in Exhibit I of this agreement;
2) Distribute in a timely manner, the LEA's portion of Race to the Top grant funds during the course of the project period and in accordance with the LEA Plan identified in Exhibit I;
3) Provide feedback on the LEA's status updates, annual reports, any interim reports, and project plans and products; and
4) Identify sources of technical assistance for the project.

C. JOINT RESPONSIBILITIES

1) The State and the Participating LEA will each appoint a key contact person for the Race to the Top grant.
2) These key contacts from the State and the Participating LEA will maintain frequent communication to facilitate cooperation under this MOU.
3) State and Participating LEA grant personnel will work together to determine appropriate timelines for project updates and status reports throughout the whole grant period.
4) State and Participating LEA grant personnel will negotiate in good faith to continue to achieve the overall goals of the State's Race to the Top grant, even when the State Plan requires modifications that affect the Participating LEA, or when the LEA Plan requires modifications.

D. STATE RECOURSE FOR LEA NON-PERFORMANCE

If the State determines that the LEA is not meeting its goals, timelines, budget, or annual targets or is not fulfilling other applicable requirements, the State grantee will take appropriate enforcement action, which could include a collaborative process between the State and the LEA, or any of the enforcement measures that are detailed in 34 CFR section 80.43 including putting the LEA on reimbursement payment status, temporarily withholding funds, or disallowing costs.

III. ASSURANCES

The Participating LEA hereby certifies and represents that it:

1) Has all requisite power and authority to execute this MOU;
2) Is familiar with the State's Race to the Top grant application and is supportive of and committed to working on all portions of the State Plan;
3) Agrees to be a Participating LEA and will implement those portions of the State Plan indicated in Exhibit I, if the State application is funded;
4) Will provide a Final Scope of Work to be attached to this MOU as Exhibit II only if the State's application is funded; will do so in a timely fashion but no later than 90 days after a grant is awarded; and will describe in Exhibit II the LEA's specific goals, activities, timelines, budgets, key personnel, and annual targets for key performance measures ("LEA Plan ") in a manner that is consistent with the Preliminary Scope of Work (Exhibit I) and with the State Plan; and
5) Will comply with all of the terms of the Grant, the State's subgrant, and all applicable Federal and State laws and regulations, including laws and regulations applicable to the Program, and the applicable provisions of EDGAR (34 CFR Parts 75, 77, 79, 80, 82, 84, 85, 86, 97, 98, and 99).

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This Memorandum of Understanding may be amended only by written agreement signed by each of the parties involved, and in consultation with ED.

V. DURATION/TERMINATION

This Memorandum of Understanding shall be effective, beginning with the date of the last signature hereon and, if a grant is received, ending upon the expiration of the grant project period, or upon mutual agreement of the parties, whichever occurs first.

VI. SIGNATURES

LEA Superintendent (or equivalent authorized signatory) - required:

William T. Bull 5-2-2010
Signature/Date

William T. Bull Superintendent
Print Name/Title

President of Local School Board (or equivalent, if applicable):

Joe W Garrison 5/4/2010

Signature/Date

Joe W Garrison Board President

Print Name/Title

Local Teachers' Union Leader (if applicable):

Sharla Amick 5/3/10

Signature/Date

Sharla Amick NEA President

Print Name/Title

Authorized State Official - required:

By its signature below, the State hereby accepts the LEA as a Participating LEA.

Chris L Nicastro 5/14/2010

Signature/Date

Chris L. Nicastro, Commissioner of Education

Print Name/Title

Missouri Department of Elementary and Secondary Education
Race to the Top MOU

Please complete and fax to **573-526-7338.**

Missouri Participating LEA Memorandum of Understanding

This Memorandum of Understanding ("MOU") is entered into by and between Missouri ("State") and Hazelwood School District ("Participating LEA"). The purpose of this agreement is to establish a framework of collaboration, as well as to articulate specific roles and responsibilities in support of the State in its implementation of an approved Race to the Top grant project.

I. SCOPE OF WORK

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1) Implement the LEA plan as identified in Exhibit I of this agreement;
2) Actively participate in all relevant convenings, communities of practice, or other practice-sharing events that are organized or sponsored by the State or by the U.S. Department of Education ("ED");
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4) Identify sources of technical assistance for the project.

C. JOINT RESPONSIBILITIES

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3) State and Participating LEA grant personnel will work together to determine appropriate timelines for project updates and status reports throughout the whole grant period.
4) State and Participating LEA grant personnel will negotiate in good faith to continue to achieve the overall goals of the State's Race to the Top grant, even when the State Plan requires modifications that affect the Participating LEA, or when the LEA Plan requires modifications.

D. STATE RECOURSE FOR LEA NON-PERFORMANCE

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III. ASSURANCES

The Participating LEA hereby certifies and represents that it:

1) Has all requisite power and authority to execute this MOU;
2) Is familiar with the State's Race to the Top grant application and is supportive of and committed to working on all portions of the State Plan;
3) Agrees to be a Participating LEA and will implement those portions of the State Plan indicated in Exhibit I, if the State application is funded;
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VI. SIGNATURES

LEA Superintendent (or equivalent authorized signatory) - required:

Mary F. Piper 5-14-10
Signature/Date

Mary F. Piper, Interim Superintendent
Print Name/Title

President of Local School Board (or equivalent, if applicable):

Desiree W Whitlock 5-14-10

Signature/Date

Desiree Whitlock, Board President

Print Name/Title

Local Teachers' Union Leader (if applicable):

Signature/Date

Print Name/Title

Authorized State Official - required:

By its signature below, the State hereby accepts the LEA as a Participating LEA.

Chris L Nicastro 5/14/2010

Signature/Date

Chris L. Nicastro, Commissioner of Education

Print Name/Title

FAX TRANSMISSION

REEDS SPRING R-IV SCHOOL DISTRICT
Office of Superintendent ..... Phone: (417) 272-8173 ext. 4021
22595 Main Street
Reeds Spring, MO 65737
Fax: (417) 272-8621
Mr. Michael Mason, Superintendent
Email: mmason@wolves.k12.mo.us

FROM: Mr. Michael Mason, Superintendent

DEPARTMENT: Central Office

TO: Commissioner of Education

COMPANY: Department of Elementary & Secondary Education

Re: Race to the Top Memorandum of Understanding

FAX #: 573-526-7338

DATE: May 11, 2010

 # OF PAGES (including cover sheet) 6

COMMENTS:

Attached is a signed Race to the Top MOU, as required for participation in the Race to the Top grant project. As previously noted, it is our understanding that this is a non-binding contract at this point in time.

If you need additional information from our office, please feel free to contact by phone or email listed above. Thank you!

NOTICE OF CONFIDENTIALITY
The documents accompanying this facsimile transmission containing confidential information belong to the sender, which is legally and/or medically privileged. The information is intended only for the use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or taking of any action on the contents is strictly prohibited. If received in error, please immediately notify us by phone to arrange return of documents.

Missouri Department of Elementary and Secondary Education
Race to the Top MOU

Please complete and fax to **573-526-7338.**

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This Memorandum of Understanding ("MOU") is entered into by and between Missouri ("State") and Reeds Spring School District ("Participating LEA"). The purpose of this agreement is to establish a framework of collaboration, as well as to articulate specific roles and responsibilities in support of the State in its implementation of an approved Race to the Top grant project.

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VI. SIGNATURES

LEA Superintendent (or equivalent authorized signatory) - required:

Michael D Mason 5/10/10

Signature/Date

Michael Mason/Superintendent

Print Name/Title

President of Local School Board (or equivalent, if applicable):

Earl Johnson 5/11/10

Signature/Date

Earl Johnson/President

Print Name/Title

Local Teachers' Union Leader (if applicable):

Signature/Date

Print Name/Title

Authorized State Official - required:
By its signature below, the State hereby accepts the LEA as a Participating LEA.

Chris L. Nicastro 5/14/2010

Signature/Date

Chris L. Nicastro, Commissioner of Education

Print Name/Title

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D. Great Teachers and Leaders	
1. Convene all stakeholders to develop state models for educator evaluation that include measures of student performance.	1. Work with local stakeholders to adopt state models for educator evaluation that include measures of student performance, **OR** develop local models that include measures of student performance.
2. Develop a model for linking student performance, teacher practices, and leadership decisions. Provide training and professional development on the use of the data.	2. Adopt the state model for linking student performance, teacher practices and leadership decisions, **OR** develop a local model that meets the criteria. Participate in professional development and training for the use of linked student performance, teacher practice, and leadership decision data to improve student performance.
3. Conduct audits of participating school districts' and charter schools' implementation of new evaluation models.	3. Conduct annual evaluations for all teachers and leaders using new evaluation models.
E. Turning Around the Lowest-Achieving Schools	
1. Develop and implement a Missouri Turnaround Model to train teachers and leaders in turning around the state's lowest-achieving districts, schools, and groups of students.	1. Implement the Missouri Turnaround Model, School Improvement Plans, or targeted sub-group interventions as appropriate in the school district, charter school, or school.
2. Develop and implement a model for a braided, community-based system of support for students. Provide training and technical support for participating school districts and charter schools.	2. Adopt the state model, **OR** develop a local model for a braided, community-based system of support for students.

Please fax completed MOU to **573-526-7338**

or mail to:

Commissioner of Education
Department of Elementary and Secondary Education
PO Box 480
Jefferson City, MO 65102

May 2010

Cabool R-IV Schools
1025 Rogers Ave
PO Box 613
Cabool MO 65689
PHONE: 417-962-3153
FAX: 417-962-5043

Fax Transmittal Form

To: DESE

Name:
Dept:
CC:
Phone:
Fax:

- ☐ Urgent
- ☐ For Review
- ☐ Please Comment
- ☐ Please Reply

From: Wes Davis

Name:

Phone:
Fax:
E-mail:

Date Sent:
Time Sent:
Number of Pages Including Cover Page: 6

Message:

Now

Race to Top

Missouri Department of Elementary and Secondary Education
Race to the Top MOU

Please complete and fax to **573-526-7338**.

Missouri Participating LEA Memorandum of Understanding

This Memorandum of Understanding ("MOU") is entered into by and between Missouri ("State") and Cabool R-IV School District ("Participating LEA"). The purpose of this agreement is to establish a framework of collaboration, as well as to articulate specific roles and responsibilities in support of the State in its implementation of an approved Race to the Top grant project.

I. SCOPE OF WORK

Exhibit 1, the Preliminary Scope of Work, indicates which portions of the State's proposed reform plans ("State Plan") the Participating LEA is agreeing to implement. (Note that, in order to participate, the LEA must agree to implement all of the State Plan.)

II. PROJECT ADMINISTRATION

A. PARTICIPATING LEA RESPONSIBILITIES

In assisting the State in implementing the tasks and activities described in the State's Race to the Top application, the Participating LEA subgrantee will:

1) Implement the LEA plan as identified in Exhibit I of this agreement;
2) Actively participate in all relevant convenings, communities of practice, or other practice-sharing events that are organized or sponsored by the State or by the U.S. Department of Education ("ED");
3) Post to any website specified by the State or ED, in a timely manner, all non-proprietary products and lessons learned developed using funds associated with the Race to the Top grant;
4) Participate, as requested, in any evaluations of this grant conducted by the State or ED;
5) Be responsive to State or ED requests for information including the status of the project, project implementation, outcomes, and any problems anticipated or encountered;
6) Participate in meetings and telephone conferences with the State to discuss (a) progress of the project, (b) potential dissemination of resulting non-proprietary products and lessons learned, (c) plans for subsequent years of the Race to the Top grant period, and (d) other matters related to the Race to the Top grant and associated plans.

B. STATE RESPONSIBILITIES

In assisting Participating LEAs in implementing their tasks and activities described in the State's Race to the Top application, the State grantee will:

1) Work collaboratively with, and support the Participating LEA in carrying out the LEA Plan as identified in Exhibit I of this agreement;
2) Distribute in a timely manner, the LEA's portion of Race to the Top grant funds during the course of the project period and in accordance with the LEA Plan identified in Exhibit I;
3) Provide feedback on the LEA's status updates, annual reports, any interim reports, and project plans and products; and
4) Identify sources of technical assistance for the project.

C. JOINT RESPONSIBILITIES

1) The State and the Participating LEA will each appoint a key contact person for the Race to the Top grant.
2) These key contacts from the State and the Participating LEA will maintain frequent communication to facilitate cooperation under this MOU.
3) State and Participating LEA grant personnel will work together to determine appropriate timelines for project updates and status reports throughout the whole grant period.
4) State and Participating LEA grant personnel will negotiate in good faith to continue to achieve the overall goals of the State's Race to the Top grant, even when the State Plan requires modifications that affect the Participating LEA, or when the LEA Plan requires modifications.

D. STATE RECOURSE FOR LEA NON-PERFORMANCE

If the State determines that the LEA is not meeting its goals, timelines, budget, or annual targets or is not fulfilling other applicable requirements, the State grantee will take appropriate enforcement action, which could include a collaborative process between the State and the LEA, or any of the enforcement measures that are detailed in 34 CFR section 80.43 including putting the LEA on reimbursement payment status, temporarily withholding funds, or disallowing costs.

III. ASSURANCES

The Participating LEA hereby certifies and represents that it:

1) Has all requisite power and authority to execute this MOU;
2) Is familiar with the State's Race to the Top grant application and is supportive of and committed to working on all portions of the State Plan;
3) Agrees to be a Participating LEA and will implement those portions of the State Plan indicated in Exhibit I, if the State application is funded;
4) Will provide a Final Scope of Work to be attached to this MOU as Exhibit II only if the State's application is funded; will do so in a timely fashion but no later than 90 days after a grant is awarded; and will describe in Exhibit II the LEA's specific goals, activities, timelines, budgets, key personnel, and annual targets for key performance measures ("LEA Plan ") in a manner that is consistent with the Preliminary Scope of Work (Exhibit I) and with the State Plan; and
5) Will comply with all of the terms of the Grant, the State's subgrant, and all applicable Federal and State laws and regulations, including laws and regulations applicable to the Program, and the applicable provisions of EDGAR (34 CFR Parts 75, 77, 79, 80, 82, 84, 85, 86, 97, 98, and 99).

IV. MODIFICATIONS

This Memorandum of Understanding may be amended only by written agreement signed by each of the parties involved, and in consultation with ED.

V. DURATION/TERMINATION

This Memorandum of Understanding shall be effective, beginning with the date of the last signature hereon and, if a grant is received, ending upon the expiration of the grant project period, or upon mutual agreement of the parties, whichever occurs first.

VI. SIGNATURES

LEA Superintendent (or equivalent authorized signatory) - required:

Wesley L Davis 5/11/10

Signature/Date

Wesley L Davis 5/11/10

Print Name/Title

President of Local School Board (or equivalent, if applicable):

5-12-2010

Signature/Date

Kevin Clary Board President

Print Name/Title

Local Teachers' Union Leader (if applicable):

Melissa D. Vonallmen 5-12-10

Signature/Date

Melissa D. Vonallmen CTA Pres.

Print Name/Title

Authorized State Official - required:

By its signature below, the State hereby accepts the LEA as a Participating LEA.

Chris L Nicastro 5/14/2010

Signature/Date

Chris L. Nicastro, Commissioner of Education

Print Name/Title

EXHIBIT I – PRELIMINARY SCOPE OF WORK

LEA hereby agrees to participate in implementing the State Plan in each of the areas identified below.

Missouri Education Reform Plan

State Actions	LEA Actions
B. Standards and Assessments	
1. Develop a model P-12 curriculum aligned with the Common Core and College and Career Ready Standards.	1. Implement the model P-12 curriculum **OR** develop a local model P-12 curriculum aligned with the Common Core and College and Career Ready Standards.
2. Develop grade/subject-specific professional development providing evidence- and research-based support for the implementation of the model curriculum.	2. Focus local professional development resources and plans on the implementation of the new model curriculum **OR** the updated local curriculum.
3. Coordinate, support, and develop models for the expansion of the number of advanced course offerings/dual credit, internship, and STEM opportunities.	3. Expand the number of advanced course offerings/dual credit, internship, and STEM opportunities.
C. Data Systems to Support Instruction	
1. Provide data analysis training including data team certification in all participating districts or charter schools by 2011 and in all participating schools by 2012.	1. Send teams to gain data-team certification to support school district, school building, and student data analysis and data-driven decision making.
2. Provide research incentives for the investigation of narrowly-defined questions focused on closing gaps in achievement and identifying best practices in effective instruction and school turnaround.	2. Collaborate with researchers to study and identify best practices relating to closing achievement gaps, effective instruction, and school turnaround.

D. Great Teachers and Leaders	
1. Convene all stakeholders to develop state models for educator evaluation that include measures of student performance.	1. Work with local stakeholders to adopt state models for educator evaluation that include measures of student performance, **OR** develop local models that include measures of student performance.
2. Develop a model for linking student performance, teacher practices, and leadership decisions. Provide training and professional development on the use of the data.	2. Adopt the state model for linking student performance, teacher practices and leadership decisions, **OR** develop a local model that meets the criteria. Participate in professional development and training for the use of linked student performance, teacher practice, and leadership decision data to improve student performance.
3. Conduct audits of participating school districts' and charter schools' implementation of new evaluation models.	3. Conduct annual evaluations for all teachers and leaders using new evaluation models.
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1. Develop and implement a Missouri Turnaround Model to train teachers and leaders in turning around the state's lowest-achieving districts, schools, and groups of students.	1. Implement the Missouri Turnaround Model, School Improvement Plans, or targeted sub-group interventions as appropriate in the school district, charter school, or school.
2. Develop and implement a model for a braided, community-based system of support for students. Provide training and technical support for participating school districts and charter schools.	2. Adopt the state model, **OR** develop a local model for a braided, community-based system of support for students.

Please fax completed MOU to **573-526-7338**

or mail to:

Commissioner of Education
Department of Elementary and Secondary Education
PO Box 480
Jefferson City, MO 65102

May 2010

Missouri Department of Elementary and Secondary Education
Race to the Top MOU

Please complete and fax to **573-526-7338**.

Missouri Participating LEA Memorandum of Understanding

This Memorandum of Understanding ("MOU") is entered into by and between Missouri ("State") and Seymour R-II ("Participating LEA"). The purpose of this agreement is to establish a framework of collaboration, as well as to articulate specific roles and responsibilities in support of the State in its implementation of an approved Race to the Top grant project.

I. SCOPE OF WORK

Exhibit I, the Preliminary Scope of Work, indicates which portions of the State's proposed reform plans ("State Plan") the Participating LEA is agreeing to implement. (Note that, in order to participate, the LEA must agree to implement all of the State Plan.)

II. PROJECT ADMINISTRATION

A. PARTICIPATING LEA RESPONSIBILITIES

In assisting the State in implementing the tasks and activities described in the State's Race to the Top application, the Participating LEA subgrantee will:

1) Implement the LEA plan as identified in Exhibit I of this agreement;
2) Actively participate in all relevant convenings, communities of practice, or other practice-sharing events that are organized or sponsored by the State or by the U.S. Department of Education ("ED");
3) Post to any website specified by the State or ED, in a timely manner, all non-proprietary products and lessons learned developed using funds associated with the Race to the Top grant;
4) Participate, as requested, in any evaluations of this grant conducted by the State or ED;
5) Be responsive to State or ED requests for information including the status of the project, project implementation, outcomes, and any problems anticipated or encountered;
6) Participate in meetings and telephone conferences with the State to discuss (a) progress of the project, (b) potential dissemination of resulting non-proprietary products and lessons learned, (c) plans for subsequent years of the Race to the Top grant period, and (d) other matters related to the Race to the Top grant and associated plans.

B. STATE RESPONSIBILITIES

In assisting Participating LEAs in implementing their tasks and activities described in the State's Race to the Top application, the State grantee will:

1) Work collaboratively with, and support the Participating LEA in carrying out the LEA Plan as identified in Exhibit I of this agreement;
2) Distribute in a timely manner, the LEA's portion of Race to the Top grant funds during the course of the project period and in accordance with the LEA Plan identified in Exhibit I;
3) Provide feedback on the LEA's status updates, annual reports, any interim reports, and project plans and products; and
4) Identify sources of technical assistance for the project.

C. JOINT RESPONSIBILITIES

1) The State and the Participating LEA will each appoint a key contact person for the Race to the Top grant.
2) These key contacts from the State and the Participating LEA will maintain frequent communication to facilitate cooperation under this MOU.
3) State and Participating LEA grant personnel will work together to determine appropriate timelines for project updates and status reports throughout the whole grant period.
4) State and Participating LEA grant personnel will negotiate in good faith to continue to achieve the overall goals of the State's Race to the Top grant, even when the State Plan requires modifications that affect the Participating LEA, or when the LEA Plan requires modifications.

D. STATE RECOURSE FOR LEA NON-PERFORMANCE

If the State determines that the LEA is not meeting its goals, timelines, budget, or annual targets or is not fulfilling other applicable requirements, the State grantee will take appropriate enforcement action, which could include a collaborative process between the State and the LEA, or any of the enforcement measures that are detailed in 34 CFR section 80.43 including putting the LEA on reimbursement payment status, temporarily withholding funds, or disallowing costs.

III. ASSURANCES

The Participating LEA hereby certifies and represents that it:

1) Has all requisite power and authority to execute this MOU;
2) Is familiar with the State's Race to the Top grant application and is supportive of and committed to working on all portions of the State Plan;
3) Agrees to be a Participating LEA and will implement those portions of the State Plan indicated in Exhibit I, if the State application is funded;
4) Will provide a Final Scope of Work to be attached to this MOU as Exhibit II only if the State's application is funded; will do so in a timely fashion but no later than 90 days after a grant is awarded; and will describe in Exhibit II the LEA's specific goals, activities, timelines, budgets, key personnel, and annual targets for key performance measures ("LEA Plan ") in a manner that is consistent with the Preliminary Scope of Work (Exhibit I) and with the State Plan; and
5) Will comply with all of the terms of the Grant, the State's subgrant, and all applicable Federal and State laws and regulations, including laws and regulations applicable to the Program, and the applicable provisions of EDGAR (34 CFR Parts 75, 77, 79, 80, 82, 84, 85, 86, 97, 98, and 99).

IV. MODIFICATIONS

This Memorandum of Understanding may be amended only by written agreement signed by each of the parties involved, and in consultation with ED.

V. DURATION/TERMINATION

This Memorandum of Understanding shall be effective, beginning with the date of the last signature hereon and, if a grant is received, ending upon the expiration of the grant project period, or upon mutual agreement of the parties, whichever occurs first.

VI. SIGNATURES

LEA Superintendent (or equivalent authorized signatory) - required:

5-3-10

Signature/Date

FRANK ROWLES / SUPERINTENDENT

Print Name/Title

President of Local School Board (or equivalent, if applicable):

5-4-10

Signature/Date

Bobby Harris / Board President

Print Name/Title

Local Teachers' Union Leader (if applicable):

Debbie Kastning 5-3-10

Signature/Date

Debbie Kastning - MSTA President

Print Name/Title

Authorized State Official - required:

By its signature below, the State hereby accepts the LEA as a Participating LEA.

Chris L Nicastro 5/14/2010

Signature/Date

Chris L. Nicastro, Commissioner of Education

Print Name/Title

EXHIBIT I – PRELIMINARY SCOPE OF WORK

LEA hereby agrees to participate in implementing the State Plan in each of the areas identified below.

Missouri Education Reform Plan

State Actions	LEA Actions
B. Standards and Assessments	
1. Develop a model P-12 curriculum aligned with the Common Core and College and Career Ready Standards.	1. Implement the model P-12 curriculum **OR** develop a local model P-12 curriculum aligned with the Common Core and College and Career Ready Standards.
2. Develop grade/subject-specific professional development providing evidence- and research-based support for the implementation of the model curriculum.	2. Focus local professional development resources and plans on the implementation of the new model curriculum **OR** the updated local curriculum.
3. Coordinate, support, and develop models for the expansion of the number of advanced course offerings/dual credit, internship, and STEM opportunities.	3. Expand the number of advanced course offerings/dual credit, internship, and STEM opportunities.
C. Data Systems to Support Instruction	
1. Provide data analysis training including data team certification in all participating districts or charter schools by 2011 and in all participating schools by 2012.	1. Send teams to gain data-team certification to support school district, school building, and student data analysis and data-driven decision making.
2. Provide research incentives for the investigation of narrowly-defined questions focused on closing gaps in achievement and identifying best practices in effective instruction and school turnaround.	2. Collaborate with researchers to study and identify best practices relating to closing achievement gaps, effective instruction, and school turnaround.

D. Great Teachers and Leaders	
1. Convene all stakeholders to develop state models for educator evaluation that include measures of student performance.	1. Work with local stakeholders to adopt state models for educator evaluation that include measures of student performance, **OR** develop local models that include measures of student performance.
2. Develop a model for linking student performance, teacher practices, and leadership decisions. Provide training and professional development on the use of the data.	2. Adopt the state model for linking student performance, teacher practices and leadership decisions, **OR** develop a local model that meets the criteria. Participate in professional development and training for the use of linked student performance, teacher practice, and leadership decision data to improve student performance.
3. Conduct audits of participating school districts' and charter schools' implementation of new evaluation models.	3. Conduct annual evaluations for all teachers and leaders using new evaluation models.
E. Turning Around the Lowest-Achieving Schools	
1. Develop and implement a Missouri Turnaround Model to train teachers and leaders in turning around the state's lowest-achieving districts, schools, and groups of students.	1. Implement the Missouri Turnaround Model, School Improvement Plans, or targeted sub-group interventions as appropriate in the school district, charter school, or school.
2. Develop and implement a model for a braided, community-based system of support for students. Provide training and technical support for participating school districts and charter schools.	2. Adopt the state model, **OR** develop a local model for a braided, community-based system of support for students.

Please fax completed MOU to **573-526-7338**

or mail to:

Commissioner of Education
Department of Elementary and Secondary Education
PO Box 480
Jefferson City, MO 65102

May 2010

5/14/10
Due date

Missouri Department of Elementary and Secondary Education
Race to the Top MOU

Please complete and fax to **573-526-7338**.

Missouri Participating LEA Memorandum of Understanding

This Memorandum of Understanding ("MOU") is entered into by and between Missouri ("State") and Lift for Life Academy 115-902 ("Participating LEA"). The purpose of this agreement is to establish a framework of collaboration, as well as to articulate specific roles and responsibilities in support of the State in its implementation of an approved Race to the Top grant project.

I. SCOPE OF WORK

Exhibit I, the Preliminary Scope of Work, indicates which portions of the State's proposed reform plans ("State Plan") the Participating LEA is agreeing to implement. (Note that, in order to participate, the LEA must agree to implement all of the State Plan.)

II. PROJECT ADMINISTRATION

A. PARTICIPATING LEA RESPONSIBILITIES

In assisting the State in implementing the tasks and activities described in the State's Race to the Top application, the Participating LEA subgrantee will:

1) Implement the LEA plan as identified in Exhibit I of this agreement;
2) Actively participate in all relevant convenings, communities of practice, or other practice-sharing events that are organized or sponsored by the State or by the U.S. Department of Education ("ED");
3) Post to any website specified by the State or ED, in a timely manner, all non-proprietary products and lessons learned developed using funds associated with the Race to the Top grant;
4) Participate, as requested, in any evaluations of this grant conducted by the State or ED;
5) Be responsive to State or ED requests for information including the status of the project, project implementation, outcomes, and any problems anticipated or encountered;
6) Participate in meetings and telephone conferences with the State to discuss (a) progress of the project, (b) potential dissemination of resulting non-proprietary products and lessons learned, (c) plans for subsequent years of the Race to the Top grant period, and (d) other matters related to the Race to the Top grant and associated plans.

B. STATE RESPONSIBILITIES

In assisting Participating LEAs in implementing their tasks and activities described in the State's Race to the Top application, the State grantee will:

1) Work collaboratively with, and support the Participating LEA in carrying out the LEA Plan as identified in Exhibit I of this agreement;
2) Distribute in a timely manner, the LEA's portion of Race to the Top grant funds during the course of the project period and in accordance with the LEA Plan identified in Exhibit I;
3) Provide feedback on the LEA's status updates, annual reports, any interim reports, and project plans and products; and
4) Identify sources of technical assistance for the project.

C. JOINT RESPONSIBILITIES

1) The State and the Participating LEA will each appoint a key contact person for the Race to the Top grant.
2) These key contacts from the State and the Participating LEA will maintain frequent communication to facilitate cooperation under this MOU.
3) State and Participating LEA grant personnel will work together to determine appropriate timelines for project updates and status reports throughout the whole grant period.
4) State and Participating LEA grant personnel will negotiate in good faith to continue to achieve the overall goals of the State's Race to the Top grant, even when the State Plan requires modifications that affect the Participating LEA, or when the LEA Plan requires modifications.

D. STATE RECOURSE FOR LEA NON-PERFORMANCE

If the State determines that the LEA is not meeting its goals, timelines, budget, or annual targets or is not fulfilling other applicable requirements, the State grantee will take appropriate enforcement action, which could include a collaborative process between the State and the LEA, or any of the enforcement measures that are detailed in 34 CFR section 80.43 including putting the LEA on reimbursement payment status, temporarily withholding funds, or disallowing costs.

III. ASSURANCES

The Participating LEA hereby certifies and represents that it:

1) Has all requisite power and authority to execute this MOU;
2) Is familiar with the State's Race to the Top grant application and is supportive of and committed to working on all portions of the State Plan;
3) Agrees to be a Participating LEA and will implement those portions of the State Plan indicated in Exhibit I, if the State application is funded;
4) Will provide a Final Scope of Work to be attached to this MOU as Exhibit II only if the State's application is funded; will do so in a timely fashion but no later than 90 days after a grant is awarded; and will describe in Exhibit II the LEA's specific goals, activities, timelines, budgets, key personnel, and annual targets for key performance measures ("LEA Plan ") in a manner that is consistent with the Preliminary Scope of Work (Exhibit I) and with the State Plan; and
5) Will comply with all of the terms of the Grant, the State's subgrant, and all applicable Federal and State laws and regulations, including laws and regulations applicable to the Program, and the applicable provisions of EDGAR (34 CFR Parts 75, 77, 79, 80, 82, 84, 85, 86, 97, 98, and 99).

IV. MODIFICATIONS

This Memorandum of Understanding may be amended only by written agreement signed by each of the parties involved, and in consultation with ED.

V. DURATION/TERMINATION

This Memorandum of Understanding shall be effective, beginning with the date of the last signature hereon and, if a grant is received, ending upon the expiration of the grant project period, or upon mutual agreement of the parties, whichever occurs first.

VI. SIGNATURES

LEA Superintendent (or equivalent authorized signatory) - required:

Signature/Date

Marshall Cohen, Director

Print Name/Title

President of Local School Board (or equivalent, if applicable):

5/10/10

Signature/Date

John Mann, President of School Board

Print Name/Title

Local Teachers' Union Leader (if applicable):

Signature/Date

N/A

Print Name/Title

Authorized State Official - required:

By its signature below, the State hereby accepts the LEA as a Participating LEA.

Chris L Nicastro 5/14/2010

Signature/Date

Chris L. Nicastro, Commissioner of Education

Print Name/Title

EXHIBIT I – PRELIMINARY SCOPE OF WORK

LEA hereby agrees to participate in implementing the State Plan in each of the areas identified below.

Missouri Education Reform Plan

State Actions	LEA Actions
B. Standards and Assessments	
1. Develop a model P-12 curriculum aligned with the Common Core and College and Career Ready Standards.	1. Implement the model P-12 curriculum **OR** develop a local model P-12 curriculum aligned with the Common Core and College and Career Ready Standards.
2. Develop grade/subject-specific professional development providing evidence- and research-based support for the implementation of the model curriculum.	2. Focus local professional development resources and plans on the implementation of the new model curriculum **OR** the updated local curriculum.
3. Coordinate, support, and develop models for the expansion of the number of advanced course offerings/dual credit, internship, and STEM opportunities.	3. Expand the number of advanced course offerings/dual credit, internship, and STEM opportunities.
C. Data Systems to Support Instruction	
1. Provide data analysis training including data team certification in all participating districts or charter schools by 2011 and in all participating schools by 2012.	1. Send teams to gain data-team certification to support school district, school building, and student data analysis and data-driven decision making.
2. Provide research incentives for the investigation of narrowly-defined questions focused on closing gaps in achievement and identifying best practices in effective instruction and school turnaround.	2. Collaborate with researchers to study and identify best practices relating to closing achievement gaps, effective instruction, and school turnaround.

D. Great Teachers and Leaders	
1. Convene all stakeholders to develop state models for educator evaluation that include measures of student performance.	1. Work with local stakeholders to adopt state models for educator evaluation that include measures of student performance, **OR** develop local models that include measures of student performance.
2. Develop a model for linking student performance, teacher practices, and leadership decisions. Provide training and professional development on the use of the data.	2. Adopt the state model for linking student performance, teacher practices and leadership decisions, **OR** develop a local model that meets the criteria. Participate in professional development and training for the use of linked student performance, teacher practice, and leadership decision data to improve student performance.
3. Conduct audits of participating school districts' and charter schools' implementation of new evaluation models.	3. Conduct annual evaluations for all teachers and leaders using new evaluation models.
E. Turning Around the Lowest-Achieving Schools	
1. Develop and implement a Missouri Turnaround Model to train teachers and leaders in turning around the state's lowest-achieving districts, schools, and groups of students.	1. Implement the Missouri Turnaround Model, School Improvement Plans, or targeted sub-group interventions as appropriate in the school district, charter school, or school.
2. Develop and implement a model for a braided, community-based system of support for students. Provide training and technical support for participating school districts and charter schools.	2. Adopt the state model, **OR** develop a local model for a braided, community-based system of support for students.

Please fax completed MOU to **573-526-7338**

or mail to:

Commissioner of Education
Department of Elementary and Secondary Education
PO Box 480
Jefferson City, MO 65102

May 2010

Appendix 5: Detailed Table for (A)(1)

This table provides detailed information on the participation of each participating LEA (as defined in this notice). States should use

	LEA Demographics			Signatures on MOUs			MOU Terms	Preliminary Scope of Work – Participation in each applicable Plan Criterion															
Participating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	President of Local Teachers Union (if applicable)	Uses Standard Terms & Conditions?	(B)(3)	(C)(3)(i)	(C)(3)(ii)	(C)(3) (iii)	(D)(2) (i)	(D)(2) (ii)	(D)(2) (iii)	(D)(2)(iv)(a)	(D)(2)(iv)(b)	(D)(2)(iv)(c)	(D)(2) (iv)(d)	(D)(3)(i)	(D)(3)(ii)	(D)(5)(i)	(D)(5)(ii)	(E)(2)
				Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Yes/ No	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA
Name of LEA here																							
Academie Lafayette (048914)	1	563	162	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Adair Co. R-I (001090)	2	259	135	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Adrian R-III (007123)	2	747	281	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Advance R-IV (103129)	2	428	232	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Affton 101 (096098)	4	2,478	858	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Albany R-III (038046)	3	434	219	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Alton R-IV (075087)	2	754	508	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Arcadia Valley R-II (047062)	4	1,069	614	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Archie R-V (019139)	2	558	185	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ash Grove R-IV (039135)	3	822	347	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Atlanta C-3 (061150)	2	224	133	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ava R-I (034124)	3	1,348	905	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Avenue City R-IX (002090)	1	133	21	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Avilla R-XIII (049135)	1	163	90	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
B. Banneker Academy (048911)	1	346	296	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bakersfield R-IV (077101)	2	358	232	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ballard R-II (007122)	2	139	55	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bayless (096099)	4	1,621	881	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bell City R-II (103128)	2	233	139	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Belton 124 (019152)	11	4,885	2,310	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bernie R-XIII (103135)	2	531	286	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bismarck R-V (094076)	2	552	368	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Blackwater R-II (027055)	1	119	47	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bolivar R-I (084001)	6	2,554	1,310	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Boonville R-I (027061)	5	1,585	728	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Appendix 5: Detailed Table for (A)(1)

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Participating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	President of Local Teachers Union (if applicable)	Uses Standard Terms & Conditions?	(B)(3)	(C)(3)(i)	(C)(3)(ii)	(C)(3)(iii)	(D)(2)(i)	(D)(2)(ii)	(D)(2)(iii)	(D)(2)(iv)(a)	(D)(2)(iv)(b)	(D)(2)(iv)(c)	(D)(2)(iv)(d)	(D)(3)(i)	(D)(3)(ii)	(D)(5)(i)	(D)(5)(ii)	(E)(2)
				Y/	Y/	Y/	Yes/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/
				N/	N/	N/	No	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/
Name of LEA here				NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bradleyville R-I (106001)	2	262	126	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Branson R-IV (106004)	6	4,318	2,228	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Braymer C-4 (013061)	2	313	180	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Breckenridge R-I (013054)	2	87	69	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Brookside Charter School (048916)	2	490	373	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bunker R-III (090077)	2	231	166	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Butler R-V (007129)	2	1,004	541	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cabool R-IV (107155)	3	784	523	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Callao C-8 (061157)	1	66	55	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cameron R-I (025001)	4	1,738	710	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Campbell R-II (035093)	2	587	391	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Canton R-V (056015)	2	535	212	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cape Girardeau 63 (016096)	9	3,889	2,184	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Carl Junction R-I (049132)	6	3,300	1,272	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Carrollton R-VII (017125)	5	932	473	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Carthage R-IX (049142)	9	4,163	2,380	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Caruthersville 18 (078012)	3	1,230	932	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cassville R-IV (005123)	4	1,881	962	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Center 58 (048080)	8	2,320	1,549	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Central R-III (094086)	4	2,046	1,166	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Chaffee R-II (100060)	2	548	287	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Charleston R-I (067061)	3	1,052	802	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Chilhowee R-IV (051153)	2	170	114	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Chillicothe R-II (059117)	7	1,904	867	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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Participating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	President of Local Teachers Union (if applicable)	Uses Standard Terms & Conditions?	(B)(3)	(C)(3)(i)	(C)(3)(ii)	(C)(3) (iii)	(D)(2) (i)	(D)(2) (ii)	(D)(2) (iii)	(D)(2)(iv)(a)	(D)(2)(iv)(b)	(D)(2)(iv)(c)	(D)(2) (iv)(d)	(D)(3)(i)	(D)(3)(ii)	(D)(5)(i)	(D)(5)(ii)	(E)(2)
				Y/	Y/	Y/	Yes/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/
				N/	N/	N/	No	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/
Name of LEA here				NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Clark Co. R-I (023101)	4	989	502	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Clayton (096102)	6	2,478	392	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Clearwater R-I (111087)	3	1,053	702	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Clever R-V (022092)	4	985	404	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Climax Springs R-IV (015003)	2	236	172	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Clinton Co. R-III (025003)	3	790	218	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cole Co. R-I (026001)	3	673	262	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cole Co. R-V (026005)	2	698	256	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Columbia 93 (010093)	31	16,822	6,221	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Community R-VI (004106)	2	320	160	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Concordia R-II (054037)	2	460	160	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cooter R-IV (078004)	2	325	130	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Couch R-I (075084)	2	227	117	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cowgill R-VI (013058)	1	26	18	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Craig R-III (044078)	2	92	64	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Crocker R-II (085049)	2	536	265	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Crystal City 47 (050013)	2	744	238	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dadeville R-II (029002)	2	152	82	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dallas Co. R-I (030093)	5	1,820	1,108	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Davis R-XII (042119)	1	37	18	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Delta C-7 (078009)	2	225	151	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Desoto 73 (050014)	5	2,913	1,412	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dexter R-XI (103132)	4	2,024	954	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Diamond R-IV (073102)	3	944	479	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Doniphan R-I (091092)	4	1,572	1,045	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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				Y/	Y/	Y/	Yes/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/
				N/	N/	N/	No	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/
Name of LEA here				NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dora R-III (077103)	2	337	208	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Drexel R-IV (019150)	2	297	143	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dunklin R-V (050005)	3	1,373	667	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
East Carter Co. R-II (018047)	3	744	516	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
East Lynne 40 (019147)	1	184	116	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
East Newton Co. R-VI (073099)	3	1,594	987	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
East Prairie R-II (067055)	4	1,056	653	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
El Dorado Springs R-II (020002)	3	1,197	686	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Eldon R-I (066102)	5	1,879	1,101	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Eminence R-I (101107)	2	287	202	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Excelsior Springs 40 (024089)	7	2,770	1,104	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Exeter R-VI (005122)	2	355	232	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fair Grove R-X (039142)	3	1,070	430	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fair Play R-II (084002)	2	384	254	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fairfax R-III (003033)	2	165	89	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Farmington R-VII (094078)	10	3,757	1,849	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ferguson-Florissant R-II (096089)	25	11,740	7,831	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Forsyth R-III (106003)	3	1,226	737	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fort Osage R-I (048066)	12	4,699	2,263	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fox C-6 (050012)	17	11,767	3,558	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fredericktown R-I (062072)	4	1,865	1,022	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ft. Zumwalt R-II (092087)	24	18,844	3,304	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fulton 58 (014129)	5	2,132	1,007	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gainesville R-V (077102)	2	616	404	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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				Y/	Y/	Y/	Yes/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/
				N/	N/	N/	No	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/
Name of LEA here				NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gallatin R-V (031121)	2	613	309	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gasconade Co. R-II (037037)	4	1,863	835	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Genesis School Inc. (048905)	1	154	183	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gideon 37 (072073)	2	321	197	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gilliam C-4 (097127)	1	41	26	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gilman City R-IV (041004)	2	119	84	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Glenwood R-VIII (046135)	1	259	133	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Golden City R-III (006103)	2	250	150	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gordon Parks Elem. (048913)	1	217	200	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gorin R-III (099078)	1	27	23	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Grandview C-4 (048074)	9	3,912	2,423	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Grandview R-II (050002)	3	845	306	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Green City R-I (105123)	2	292	174	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Green Forest R-II (033092)	1	173	110	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Greenfield R-IV (029004)	2	458	285	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Greenville R-II (111086)	4	735	519	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Grundy Co. R-V (040100)	2	167	102	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hallsville R-IV (010089)	4	1,335	449	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hamilton R-II (013055)	3	734	299	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hardeman R-X (097122)	1	46	10	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Harrisburg R-VIII (010092)	3	567	231	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hayti R-II (078002)	3	784	651	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hazelwood (096088)	30	18,376	9,930	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Henry Co. R-I (042111)	2	678	365	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hermitage R-IV (043004)	3	273	196	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Appendix 5: Detailed Table for (A)(1)

This table provides detailed information on the participation of each participating LEA (as defined in this notice). States should use

	LEA Demographics			Signatures on MOUs			MOU Terms	Preliminary Scope of Work – Participation in each applicable Plan Criterion														
Participating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	President of Local Teachers Union (if applicable)	Uses Standard Terms & Conditions?	(B)(3)	(C)(3)(i)	(C)(3)(ii)	(C)(3) (iii)	(D)(2) (i)	(D)(2) (ii)	(D)(2) (iii)	(D)(2)(iv)(a)	(D)(2)(iv)(b)	(D)(2)(iv)(c)	(D)(2) (iv)(d)	(D)(3)(i)	(D)(3)(ii)	(D)(5)(i)	(D)(5)(ii)	(E)(2)
				Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Yes/ No	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA
Name of LEA here																							
Hickman Mills C-1 (048072)	18	6,445	4,961	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Higbee R-VIII (088075)	2	228	143	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Holden R-III (051152)	3	1,436	579	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Holliday C-2 (069107)	1	70	35	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hollister R-V (106005)	4	1,327	853	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hudson R-IX (007126)	1	55	16	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Humansville R-IV (084004)	2	356	286	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hume R-VIII (007125)	2	153	83	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Iron Co. C-4 (047065)	2	439	247	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jackson R-II (016090)	9	4,598	1,544	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jamestown C-1 (068074)	2	226	68	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jefferson C-123 (074195)	2	142	69	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jennings (096104)	8	3,009	2,516	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Joplin Schools (049148)	19	7,655	4,219	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Junction Hill C-12 (046137)	1	205	141	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Kansas City 33 (048078)	58	16,868	13,769	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Kelso C-7 (100064)	1	89	30	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Keytesville R-III (021150)	2	153	76	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Kingston 42 (013062)	1	36	22	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Kingston K-14 (110014)	4	821	547	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Kingsville R-I (051150)	2	281	123	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Kipp: Endeavor Academy (048918)	1	170	139	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Kirbyville R-VI (106006)	2	303	183	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Kirksville R-III (001091)	5	2,495	1,056	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Appendix 5: Detailed Table for (A)(1)

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	LEA Demographics			Signatures on MOUs			MOU Terms	Preliminary Scope of Work – Participation in each applicable Plan Criterion														
Participating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	President of Local Teachers Union (if applicable)	Uses Standard Terms & Conditions?	(B)(3)	(C)(3)(i)	(C)(3)(ii)	(C)(3) (iii)	(D)(2) (i)	(D)(2) (ii)	(D)(2) (iii)	(D)(2)(iv)(a)	(D)(2)(iv)(b)	(D)(2)(iv)(c)	(D)(2) (iv)(d)	(D)(3)(i)	(D)(3)(ii)	(D)(5)(i)	(D)(5)(ii)	(E)(2)
				Y/	Y/	Y/	Yes/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/
				N/	N/	N/	No	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/
Name of LEA here				NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Knob Noster R-VIII (051155)	4	1,440	548	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Knox Co. R-I (052096)	2	529	327	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
La Plata R-II (061154)	2	327	190	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Laclede Co. R-I (053111)	3	849	537	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ladue (096106)	6	3,799	346	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lafayette Co. C-1 (054039)	3	981	419	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lakeland R-III (093123)	2	440	266	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Laquey R-V (085045)	3	703	418	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Laredo R-VII (040104)	1	52	26	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lathrop R-II (025002)	3	894	289	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lawson R-XIV (089080)	3	1,287	307	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lebanon R-III (053113)	8	4,404	2,365	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lee A. Tolbert Com. Academy (048910)	2	624	479	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Leopold R-III (009078)	2	200	47	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lesterville R-IV (090078)	3	262	153	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lewis Co. C-1 (056017)	2	1,029	509	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lexington R-V (054045)	5	921	421	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Liberal R-II (006101)	3	506	270	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Liberty 53 (024090)	18	10,385	1,872	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Licking R-VIII (107154)	2	837	487	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lift For Life Academy (115902)	1	434	393	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Livingston Co. R-III (059114)	1	66	36	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Logan-Rogersville R-VIII (039139)	5	2,205	717	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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Participating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	President of Local Teachers Union (if applicable)	Uses Standard Terms & Conditions?	(B)(3)	(C)(3)(i)	(C)(3)(ii)	(C)(3) (iii)	(D)(2) (i)	(D)(2) (ii)	(D)(2) (iii)	(D)(2)(iv)(a)	(D)(2)(iv)(b)	(D)(2)(iv)(c)	(D)(2) (iv)(d)	(D)(3)(i)	(D)(3)(ii)	(D)(5)(i)	(D)(5)(ii)	(E)(2)
				Y/	Y/	Y/	Yes/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/
				N/	N/	N/	No	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/
Name of LEA here				NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lonedell R-XIV (036133)	1	319	181	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Macks Creek R-V (015004)	2	309	230	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Macon Co. R-I (061156)	5	1,324	599	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Macon Co. R-IV (061158)	2	133	77	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Madison C-3 (069108)	2	244	111	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Malden R-I (035092)	2	997	715	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Manes R-V (114116)	1	62	49	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mansfield R-IV (114115)	3	675	436	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Maries Co. R-II (063067)	3	823	469	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Marion C. Early R-V (084005)	2	687	359	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Marionville R-IX (055106)	3	721	408	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Marshfield R-I (112102)	5	3,066	1,446	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
McDonald Co. R-I (060077)	10	3,708	2,439	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Meadow Heights R-II (009077)	2	548	320	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mehlville R-IX (096094)	17	10,818	2,719	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Meramec Valley R-III (036126)	10	3,360	1,532	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Miami R-I (097116)	1	42	6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Miami R-V (007121)	2	216	143	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Middle Grove C-1 (069104)	1	40	27	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Milan C-2 (105124)	3	676	449	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Miller Co. R-III (066103)	2	249	166	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Miller R-II (055104)	2	572	375	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Moberly (088081)	7	2,396	1,408	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Monett R-I (005128)	6	2,186	1,159	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Moniteau Co. R-I (068070)	3	1,295	542	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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				Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Yes/ No	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA
Name of LEA here																							
Monroe City R-I (069106)	3	693	378	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Montrose R-XIV (042121)	2	95	38	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mound City R-II (044083)	3	268	102	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mountain Grove R-III (114114)	5	1,479	976	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mountain View-Birch Tree R-III (046130)	4	1,301	845	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mt. Vernon R-V (055108)	4	1,495	781	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Neosho R-V (073108)	9	4,243	2,483	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Nevada R-V (108142)	7	2,485	1,172	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
New Franklin R-I (045076)	2	428	206	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
New Madrid Co. R-I (072074)	6	1,507	982	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Newtown-Harris R-III (105125)	2	103	71	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Niangua R-V (112099)	2	250	180	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Nixa R-II (022089)	10	5,422	1,858	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Nodaway-Holt R-VII (074187)	2	238	114	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
North Callaway Co. R-I (014126)	4	1,207	568	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
North Daviess R-III (031118)	2	80	57	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
North Kansas City 74 (024093)	32	18,288	7,988	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
North Mercer Co. R-III (065096)	2	182	94	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
North Nodaway Co. R-VI (074197)	2	208	115	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
North Pemiscot Co. R-I (078001)	2	292	215	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
North Platte Co. R-I (083001)	5	642	162	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
North Shelby (102081)	2	296	122	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Appendix 5: Detailed Table for (A)(1)

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Participating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	President of Local Teachers Union (if applicable)	Uses Standard Terms & Conditions?	(B)(3)	(C)(3)(i)	(C)(3)(ii)	(C)(3)(iii)	(D)(2)(i)	(D)(2)(ii)	(D)(2)(iii)	(D)(2)(iv)(a)	(D)(2)(iv)(b)	(D)(2)(iv)(c)	(D)(2)(iv)(d)	(D)(3)(i)	(D)(3)(ii)	(D)(5)(i)	(D)(5)(ii)	(E)(2)
Name of LEA here				Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Yes/ No	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA
North St. Francois Co. R-I (094083)	6	3,065	1,648	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Northeast Nodaway Co. R-V (074194)	2	224	96	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Northwest R-I (050001)	11	6,657	2,670	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oak Ridge R-VI (016094)	2	331	123	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Odessa R-VII (054041)	4	2,091	769	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oran R-III (100065)	2	379	194	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Orchard Farm R-V (092091)	3	1,451	430	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oregon-Howell R-III (075086)	2	242	140	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Orrick R-XI (089087)	2	431	144	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Osage Co. R-I (076081)	2	216	96	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Osage Co. R-II (076082)	2	621	221	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Osage Co. R-III (076083)	2	795	192	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Osborn R-O (032054)	2	134	66	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Osceola (093124)	2	503	297	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Otterville R-VI (027058)	2	241	121	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ozark R-VI (022093)	7	5,271	1,854	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Paris R-II (069109)	3	465	198	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Park Hill (083005)	16	10,159	2,388	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pattonsburg R-II (031116)	2	154	79	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pattonville R-III (096090)	11	5,519	2,178	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pemiscot Co. R-III (078003)	1	117	50	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Perry Co. 32 (079077)	5	2,301	1,108	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pettis Co. R-XII (080122)	1	142	90	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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				Y/	Y/	Y/	Yes/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/
				N/	N/	N/	No	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/
Name of LEA here				NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phelps Co. R-III (081097)	1	195	99	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pierce City R-VI (055105)	3	718	460	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Plato R-V (107156)	2	656	224	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Platte Co. R-III (083003)	8	3,318	718	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pleasant Hill R-III (019148)	5	2,165	510	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pleasant Hope R-VI (084006)	4	885	483	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pleasant View R-VI (040103)	1	74	11	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Polo R-VII (013059)	3	397	218	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Portageville (072068)	3	733	458	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Potosi R-III (110029)	4	2,364	1,385	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Princeton R-V (065098)	2	368	152	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Purdy R-II (005124)	3	684	374	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Putnam Co. R-I (086100)	3	740	342	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Puxico R-VIII (103130)	4	730	434	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Raymondville R-VII (107158)	1	120	86	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Raytown C-2 (048073)	19	8,652	4,588	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Reeds Spring R-IV (104044)	7	2,049	1,198	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Renick R-V (088073)	1	124	67	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Republic R-III (039134)	6	4,387	1,867	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Richards R-V (046132)	1	408	248	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Richland R-I (103127)	2	256	163	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Richland R-IV (085044)	3	633	346	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Richmond R-XVI (089089)	4	1,611	711	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Richwoods R-VII (110030)	1	163	129	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Risco R-II (072066)	2	162	90	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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				Y/	Y/	Y/	Yes/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/
				N/	N/	N/	No	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/
Name of LEA here				NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ritenour (096110)	9	6,334	4,429	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Rock Port R-II (003032)	2	374	141	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Rolla 31 (081096)	8	3,984	1,748	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Salem R-80 (033090)	4	1,479	678	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Salisbury R-IV (021151)	2	489	191	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Santa Fe R-X (054042)	2	394	122	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sarcoxie R-II (049140)	2	814	542	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Savannah R-III (002097)	6	2,349	765	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
School Of The Osage (066105)	4	1,906	953	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Schuyler Co. R-I (098080)	3	672	361	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Scotland Co. R-I (099082)	2	589	294	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Scott City R-I (100059)	3	983	466	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Scuola Vita Nuova (048915)	1	209	186	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Senath-Hornersville C-8 (035098)	3	787	531	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Seneca R-VII (073106)	3	1,594	790	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Seymour R-II (112103)	3	793	539	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Shelby Co. R-IV (102085)	5	729	340	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sheldon R-VIII (108144)	2	183	122	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Skyline R-II (034121)	1	86	62	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Slater (097130)	2	363	187	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Smithville R-II (024087)	4	2,382	303	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
South Callaway Co. R-II (014130)	4	860	347	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
South Harrison Co. R-II (041002)	4	859	439	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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				Y/	Y/	Y/	Yes/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/	Y/
				N/	N/	N/	No	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/	N/
Name of LEA here				NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
South Holt Co. R-I (044084)	2	257	100	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Southern Reynolds Co. R-II (090076)	2	491	307	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Southland C-9 (035099)	2	346	296	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Southwest R-V (005121)	3	826	507	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Specl. Sch. Dst. St. Louis Co. (096119)	10	4,563	1,241	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Spokane R-VII (022094)	3	744	359	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Spring Bluff R-XV (036134)	1	261	70	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Springfield R-XII (039141)	55	23,960	11,555	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
St. Charles R-VI (092090)	10	5,194	1,724	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
St. Elizabeth R-IV (066104)	2	252	70	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
St. James R-I (081094)	3	1,726	994	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
St. Joseph (011082)	26	11,470	6,706	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
St. Louis Charter School (115903)	1	913	625	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
St. Louis City (115115)	78	25,042	20,607	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Stanberry R-II (038045)	2	335	137	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ste. Genevieve Co. R-II (095059)	4	2,008	969	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Steelville R-III (028103)	3	965	588	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Stewartsville C-2 (032058)	2	265	82	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Stockton R-I (020001)	3	1,049	624	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Strafford R-VI (039137)	3	1,215	536	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Strasburg C-3 (019140)	1	102	41	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sturgeon R-V (010090)	3	425	166	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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				Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Yes/ No	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA
Name of LEA here																							
Success R-VI (107151)	1	94	61	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sullivan (036137)	4	2,160	1,056	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Summersville R-II (107153)	2	387	253	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sweet Springs R-VII (097131)	2	419	233	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tina-Avalon R-II (017122)	2	178	67	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tipton R-VI (068073)	2	593	259	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Trenton R-IX (040107)	3	1,208	645	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Union R-XI (036131)	5	3,030	1,249	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Union Star R-II (032056)	2	139	69	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
University City (096112)	9	3,189	1,965	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Urban Com. Leadership Academy (048907)	1	201	173	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Van Buren R-I (018050)	2	475	307	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Van-Far R-I (004109)	2	613	294	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Verona R-VII (055111)	2	386	311	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Warrensburg R-VI (051159)	10	3,248	1,076	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Washington (036139)	12	4,182	1,170	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Waynesville R-VI (085046)	9	5,815	2,343	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Weaubleau R-III (043003)	2	352	253	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Webb City R-VII (049144)	11	4,005	1,868	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Webster Groves (096114)	10	4,248	802	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Wellington-Napoleon R-IX (054043)	2	394	122	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Wellsville Middletown R-I (070092)	2	434	239	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Appendix 5: Detailed Table for (A)(1)

This table provides detailed information on the participation of each participating LEA (as defined in this notice). States should use

	LEA Demographics			Signatures on MOUs			MOU Terms	Preliminary Scope of Work – Participation in each applicable Plan Criterion															
Participating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	President of Local Teachers Union (if applicable)	Uses Standard Terms & Conditions?	(B)(3)	(C)(3)(i)	(C)(3)(ii)	(C)(3) (iii)	(D)(2) (i)	(D)(2) (ii)	(D)(2) (iii)	(D)(2)(iv)(a)	(D)(2)(iv)(b)	(D)(2)(iv)(c)	(D)(2) (iv)(d)	(D)(3)(i)	(D)(3)(ii)	(D)(5)(i)	(D)(5)(ii)	(E)(2)
Name of LEA here				Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Yes/ No	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA	Y/ N/ NA
Wentzville R-IV (092089)	14	12,121	2,428	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
West St. Francois Co. R-IV (094087)	3	1,034	634	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Westran R-I (088080)	3	608	342	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Westview C-6 (073105)	1	136	104	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Wheatland R-II (043002)	2	281	215	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Wheaton R-III (005120)	2	498	352	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Willard R-II (039133)	8	4,150	1,699	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Willow Springs R-IV (046131)	3	1,300	824	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Winfield R-IV (057004)	4	1,529	787	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Winona R-III (101105)	2	488	413	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Winston R-VI (031117)	2	176	96	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Woodland R-IV (009080)	3	912	539	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Wright City R-II (109002)	4	1,472	702	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Zalma R-V (009079)	2	227	151	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Missouri Department of Education Implementation Audit™

A Collaborative Project Between the Missouri Department of Education and The Leadership and Learning Center

The Leadership and Learning Center™

May 21, 2010

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1.0 Executive Summary of Overall Findings:

1.1 There is a **wide range of implementation** for almost every instructional initiative, with some schools and districts representing exemplary practice, and other schools and districts barely implementing the initiative. The initiatives with the highest average degree of implementation (3.0 or higher on a 4-point scale) are:

- Administrator Mentoring Program
- Career and Technical Student Organizations
- Math-Science Partnership
- Missouri Pre-School Program
- Missouri Reading Initiative
- Project Lead the Way
- Satellite Academy Program

The initiatives with the lowest average degree of implementation (less than 2.0) are:

- High Schools That Work
- Making Middle Grades Work
- Technology Centers That work

Low implementation may not be a reflection of a poor program, but rather a reflection of "initiative fatigue" at the school and district level, with too many initiatives competing for the time and attention of teachers and administrators.

1.2 **Supervision and monitoring of initiatives can be improved** using the scoring rubrics provided in Appendix E of this report. Each rubric provides specific guidelines for school, district, and state administrators to monitor implementation with regard to the learning context, professional development, instructional support, and leadership practices.

1.3 Depth of implementation is most clearly related to gains in student achievement for **Professional Learning Communities, Missouri Preschool Program, the Missouri Reading Initiative, and School-wide Positive Behavior Support**. Of all of the initiatives that were reviewed in this study, Professional Learning Communities appear to have the greatest potential impact on student achievement.

1.4 **Other programs show either a limited degree of implementation, limited evidence of impact on student achievement, or have potential impact that is not related to the Missouri Assessment Program.** This does not necessarily imply that the programs are without value.

1.5 Condition state support on deeper implementation of selected programs. **Most programs enjoy popularity and support** based on interviews and survey results. That makes it particularly challenging for policymakers to reallocate resources. However, it also allows the State to impose clear conditions on continued support.

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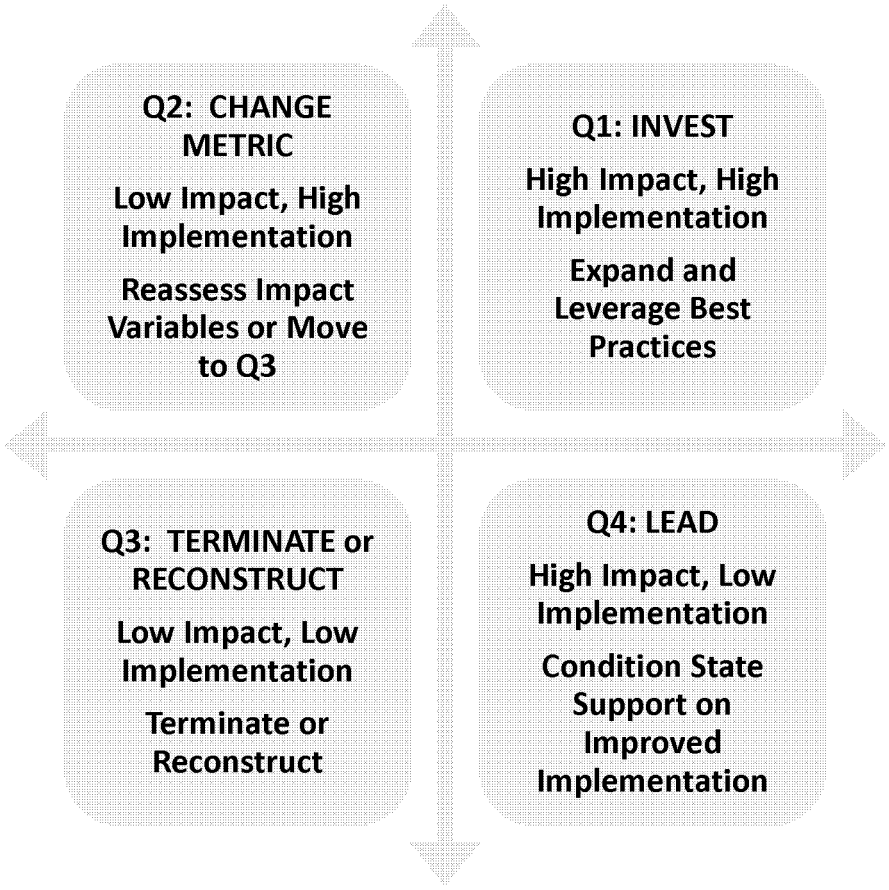
1.6 Analyze current and future programs using the four-quadrant "impact and implementation" matrix for future decisions to invest, lead and monitor, redesign objectives, or terminate.



Q1: Expand and Invest:

Misssouri Reading Initiative
Missouri Preschool Initiative
Professional Learning Communities
School-wide Positive Behavior Support

Q4: Provide explicit direction for schools and districts in the lower right-hand quadrant Consider making continued state support contingent upon evidence of deeper levels of implementation.

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Administrative Mentoring Program
High Schools That Work

Q2: Reassess potential for impact using different measurements, such as growth measures, same student comparisons, or other appropriate reflections of results. If these measurements show an impact on student results, move to quandrant 4 for support. If new measurements do not show an impact on student results, move to quandrant 3 for reconstruction or termination.

21st Century Learning Centers
Career and Technical Student Organizations
Enhancing Missouri's Instructional Networked Teaching Strategies
Making Middle Grades Work
Math-Science Partnership
Missouri Integrated Model
Missouri Option Program
Missouri Virtual Instructional Program
Project Lead the Way
Response to Intervention
Satellite Academy Program
School Administrator Manager
Technology Centers That Work

Q3: The lower left-hand quadrant will contain programs that have neither impact nor implementation, and should be terminated. Resources, people, and energy should be redirected to other priorities.

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2.0 Methodology

2.1 Purpose of Study

The Implementation Audit™ process considers three essential questions. First, what initiatives are in place in Missouri Schools and Districts and which ones are priorities? Second, what is the range of implementation for each prioritized initiative? Third, what is the relationship between each initiative and student achievement? The purpose of this study is to provide practical information for policymakers in the Missouri Department of Education (MO DOE) so they can identify and capitalize on their strengths, and directly confront their greatest challenges.

2.2 Methodology

The analysis and conclusions in the following pages were based on the results obtained from interviews, documents reviewed, and an online survey for nineteen prioritized initiatives in the state of Missouri. The level of implementation of prioritized initiatives was determined and each initiative received a rubric score which was compared to student achievement data. Rubrics were initiative specific and approved by the Missouri Department of Education.

The Department of Education initially selected the following initiatives for review: High Schools That Work, Making Middle Grades Work, Technology Centers that Work, Project Lead the Way, Professional Learning Communities, Missouri Reading Program, Missouri Pre-School Program, Missouri Option Program, Missouri Virtual Instructional Program, Enhancing Missouri's Instructional Networked Teaching Strategies, School-Wide Positive Behavior System, Career and Technical Student Organizations, 21st Century Community Learning Centers, Missouri Integrated Model, Math-Science Partnership, Response to Intervention, National Dropout Prevention Network –Students with Disabilities, University of Virginia Turnaround Program, First Steps, Leadership Academy and the Administrator Mentoring Program. The criteria used by the Department for selection of these initiatives included:

- Introduced at least 24 months prior to Implementation Audit™ to generate two years of student achievement data while the initiative was being implemented.
- Defined in terms of core components without which the effort loses its integrity.
- Established protocols of Implementation: sequences, responsibilities, timelines, protocols, common language.
- Implementation of initiative is directly observable and measurable.
- Requires professional development in core components and protocols of implementation to acquire proficiency.
- Requires deliberate practice to develop expertise.

Some high priority initiatives were considered, but not included for the study because they had not been implemented in time to influence gains in student achievement in the comparison period 2008 to 2009. These included the National Dropout Prevention Network –Students with Disabilities and the University of Virginia Turnaround Program. Another high priority, First Step, was considered, but not included for the study, because there was an outside evaluation completed. The Leadership Academy initiative was too broad and was replaced with the

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Satellite Academy Program and the School Administration Manager initiatives. There are two initiatives that remained in the study, but did not meet the criteria of being implemented for long enough period of time to generate 2008 to 2009 student comparison gains. The two initiatives are the Missouri Integrated Model and the School Administration Manager. Student achievement data for the Technology Centers that Work schools that were selected was not provided in the request.

The Missouri Department of Education provided a comprehensive list of the schools and districts that are implementing each of the respective initiatives and selected 50 schools and 25 districts that would be targeted for best practices. A stratified random sampling was used to select the remaining 150 schools and 25 districts.

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MISSOURI INITIATIVES PARTICIPATION

School Initiatives	Number Submitted	Selected Randomly	Selected by Missouri	Total Number Selected	% Chosen	Actual Schools Responded
21st Century Learning	76	1	6	7	9%	2
Administrator Mentoring Program	10	NA	NA	10	100%	5
Career and Technical Student Organization	564	1	42	43	8%	33
Enhancing Missouri's Instructional Networked Teaching Strategies	263	1	19	20	8%	18
High Schools that Work	54	1	6	7	13%	6
Making Middle Grades Work	8	1	1	2	25%	1
Math-Science Partnership	28	3	3	6	21%	0
Missouri Integrated Model	15	0	2	2	13%	2
Missouri Option Program	196	2	19	21	11%	21
Missouri Preschool Program	146	1	14	15	10%	13
Missouri Reading Initiative	59	0	5	5	8%	3
Professional Learning Communities	334	1	28	29	9%	29
Project Lead the Way	120	3	9	12	10%	9
Response to Intervention	12	0	1	1	8%	1
Satellite Academy Program	3	NA	NA	3	100%	1
School-Wide Positive Behavior Support	125	2	12	14	11%	14
Technology Centers that Work	11	1	2	3	27%	3
Total	**2024**	**18**	**169**	**200**	**9%**	**165**

Table 2.2.1 Missouri Department of Education Initiatives- School Participation

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District Initiatives	Number Submitted	Selected Randomly	Number Selected	Number Selected	% Chosen	Actual Districts Responded
21st Century Learning	33	1	2	3	9%	2
Administrator Mentoring Program	91	0	2	2	2%	1
Career and Technical Student Organization	453	1	2	3	1%	3
Enhancing Missouri's Instructional Networked Teaching Strategies	88	1	1	2	2%	2
High Schools that Work	43	1	1	2	5%	2
Making Middle Grades Work	6	1	1	2	33%	1
Math-Science Partnership	7	1	1	2	29%	1
Missouri Integrated Model	14	0	2	2	14%	2
Missouri Option Program	178	1	1	2	1%	2
Missouri Preschool Program	147	2	2	4	3%	3
Missouri Reading Initiative	25	0	2	2	8%	1
Missouri Virtual Instructional Program	16	2	2	4	25%	2
Professional Learning Communities	89	2	2	4	4%	4
Project Lead the Way	45	1	1	2	4%	1
Response to Intervention	17	1	2	3	18%	2
Satellite Academy Program	65	0	1	1	2%	0
School Administrator Manager	2	0	1	1	50%	1
School-Wide Positive Behavior Support	60	1	2	3	5%	3
Technology Centers that Work	11	1	1	2	18%	0
Total	**1390**	**17**	**29**	**46**	**2%**	**33**

Table 2.2.2 Missouri Department of Education Initiatives- District Participation

The Missouri Department of Education staff members who participated were candid and forthright, offering a blend of praise and constructive criticism in a safe atmosphere of confidentiality and anonymity.

The present study examined correlations between the initiative specific Implementation Audit™ Rubric variables in implementation and student achievement. Specifically, the study examined the school's percentage of students at the four levels of achievement on the Missouri Assessment Program for grades K-8 and the Missouri Performance Index for 9-12, as a result of the change from the Missouri Performance Assessment to End of Course Assessment between 2008 and 2009. Moreover, the achievement scores are the results indicators, and the Implementation Audit™ measures of learning context, instructional practices, professional development and leadership practices are the cause variables.

The Implementation Audit™ is a rigorous method for analyzing the impact on student achievement of instructional initiatives. The process includes an initiative inventory, assessing

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the degree of implementation at each school or district, and an analysis of the relationship between the degree of implementation and changes in student achievement from the spring of 2008 to the spring of 2009.

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3.0 Analysis

The following table provides the overall range of implementation:

Initiative	Range of Implementation
21st Century Community Learning Centers	2.0 – 4.0
Administrator Mentoring Program	1.5 – 4.0
Career and Technical Student Organizations	2.0 - 4.0
Enhancing Missouri's Instructional Networked Teaching Strategies	1.0 - 4.0
High Schools That Work	1.5 – 3.0
Making Middle Grades Work	1.0 – 2.0
Math-Science Partnership	3.0
Missouri Integrated Model	1.3 – 3.0
Missouri Option Program	1.0 – 4.0
Missouri Preschool Program	3.2 – 4.0
Missouri Reading Initiative	2.2 – 3.7
Missouri Virtual Instructional Program	2.5 – 3.3
Professional Learning Communities	2.0 – 4.0
Project Lead the Way	2.0 – 3.8
Response to Intervention	2.1 – 3.4
Satellite Academy Program	3.5
School Administrator Manager	2.5
School-Wide Positive Behavior System	1.0 – 4.0
Technology Centers That Work	1.5 – 2.0

Table 3.1 Range of Initiative Implementation

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The following table provides the overall average implementation:

Initiative	Average Implementation
21st Century Community Learning Centers	2.8
Administrator Mentoring Program	3.2
Career and Technical Student Organizations	3.6
Enhancing Missouri's Instructional Networked Teaching Strategies	2.7
High Schools That Work	1.8
Making Middle Grades Work	1.5
Math-Science Partnership	3.0
Missouri Integrated Model	2.1
Missouri Option Program	2.3
Missouri Preschool Program	3.6
Missouri Reading Initiative	3.0
Missouri Virtual Instructional Program	2.9
Professional Learning Communities	2.7
Project Lead the Way	3.2
Response to Intervention	2.8
Satellite Academy Program	3.5
School Administrator Manager	2.5
School-Wide Positive Behavior System	2.9
Technology Centers That Work	1.8

Table 3.2 Overall Average of Each Implementation

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3.0 Initiative Analysis

3.1 21st Century Community Learning Centers (21st CLCC)

3.1.1 Initiative Description

This program supports the creation of community learning centers that provide academic enrichment opportunities during non-school hours for children, particularly students who attend high-poverty and low-performing schools. The program helps students meet state and local student standards in core academic subjects, such as reading and math; offers students a broad array of enrichment activities that can complement their regular academic programs; and offers literacy and other educational services to the families of participating children.

3.1.2 Range of Implementation

A total of ten schools and districts were selected to be interviewed, yet the participation rate was only 40% —four schools/districts. Of these four schools, the range of implementation was a 2.0 to 4.0. Yet, there were some common themes that emerged both supporting certain components of implementation and areas of growth on other components.

Successful 21st Century Community Learning Center schools and districts are able to provide a wide range of academic, social, recreational and life-skills learning experiences beyond what is learned during the school day. For schools to be able to do this they need the necessary materials and supplies, including technology. Schools and districts have used the funds received through the five-year grant awarded by the Missouri Department of Education for instructional materials and supplies, including technology to support engaging afterschool programs. Of the nineteen respondents to the online survey, twelve (63%) strongly agreed that they had all the necessary materials, supplies, resources including technology to support the programs they were offering to students. Online survey responses can be found in Appendix C.

Other common themes emerging include strong partnerships between participating schools/districts and community organizations and businesses. Additionally, fifteen (79%) of the online survey respondents strongly agreed that their 21st Century Community Learning Center had a strong balance of academic, social and recreational learning experiences. Emphasis is placed on reading during the afterschool program but it is balanced with activities and lifeskills such as karate and cooking. Fifteen (79%) online survey respondents strongly agreed that their 21st Century Community Learning Center goals and objectives are directly linked to the Show-Me Standards. School instructional staff and a site coordinator develop the learning experiences for the afterschool program and thus can make connections back to the curriculum and daily learning without duplicating experiences.

Through the grant, schools and districts have access to the Missouri After-school Network (MASN) for technical assistance and training. There were mixed results from the schools/districts. A few of the schools use MASN extensively and find the support very useful. However, based on the online survey respondents (18) only 8 (44%) strongly agreed or agreed that they have participated in MASN training and/or technical support with the remaining respondents disagreed or strongly disagreed.

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With the implementation of any initiative, strong leadership is a critical component to successful implementation. Between the schools and districts the level of student participation in the 21st Century Community Learning Center after-school program ranged from 14% to an estimated 65-70%. A responsibility of building and district leadership for 21st Century Community Learning Centers is to have a process in place to reach targeted participation levels. The qualitative and quantitative data obtained through the interview process reveals this is an area that could be improved upon.

The 21st Century Community Learning Centers is providing valuable learning experiences to students beyond the regular school day and many programs have strong community and business support.

3.1.3 Best Practices

- Sufficient funds for schools and districts to obtain necessary materials, supplies and equipment, including technology to support the programs offered to students.
- Students have a wide range of learning experiences that are well balanced between academics, social, recreational and life-skills.
- Buildings with strong leadership had greater student participation. Leaders collected and used data to make appropriate adjustments to the afterschool program.

3.2 Administrator Mentoring Program (AMP)

3.2.1 Initiative Description

This is a state-wide mentoring program provided for administrators to comply with an April 2005 certification rule which requires that administrators receive two years of mentoring. The Administrator Mentoring Program (AMP) is coordinated by the Leadership Academy at the state department of education. The core components include mentors, coordinators, and online resources that support the application of leadership behaviors of new school leaders.
There are thirty-seven specific leadership behaviors organized into nine dimensions. Mentors and resources support new leader's growth in these behaviors. Administrators and mentors utilize The Leadership Performance Planning Worksheet (LPPW) created by the New York City Leadership Academy and access online resources to guide leader growth.

3.2.2 Range of Implementation

A total of ten schools and two districts were selected to participate in the interview process for the Administrator Mentoring Program (AMP). The rate of participation was 50% (6) and the range of implementation was 1.5 to 4.0. In one situation the mentor did not follow through with calls and there was little if any information provided by the administrator since the situation was uncomfortable. However, through the online survey there were 30 respondents to provide additional insight about the level of implementation of the Administrator Mentoring Program.

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Through the interviews with administrators, mentors had regular monthly contacts through various means of communication including email, phone and personal contacts. Of those interviewed only one indicated that personal contacts were not feasible as a result of the distance between the administrator's school and the mentor's location. Of the 29 online survey respondents 44% indicated that their mentors conducted at least two on-site visits during the year. The administrators interviewed as well as the majority of online respondents have accessed and utilized the online resources. One administrator indicated that during their first year as an administrator more time was spent accessing the online resources.

Sixty percent (60%) of online respondents either agreed or strongly agreed that their Leadership Performance Planning Worksheet was developed collaboratively with their mentor. Those interviewed developed their plans after discussions on their needs. One interviewee stated that the process of developing the worksheet was "cumbersome and time consuming." Another administrator stated that a pacing chart to accomplish goals was established and feels that the mentor has helped her to become a more effective instructional leader.

Professional development that administrators attended aligned to their Leadership Performance Plans such as Teaching for the Top: High Yield Strategies, Common Practices in Professional Learning Communities, Response to Intervention, and Positive Behavior Support for one of the administrators and another administrator attended professional development sessions including: Instructional Leadership Training, Advanced Leadership Academy, Response to Intervention Educational Conferences with Mike Mattos and the Response to Intervention Summer Conference, Professional Learning Communities, Protégé and Principal Training, Administrator Mentoring Program sessions, Drill Down Data, and Promoting Higher Standards in Academics.

There are eight online learning modules in the Administrator Mentoring Program. Fifty-three percent (53%) of the online survey respondents agreed or strongly agreed that the modules have changed their leadership practices and behaviors and forty-three percent disagreed with only three percent selecting strongly disagreed. One administrator who was interviewed stated that the AMP modules were "pivotal professional development experiences."

Almost seventy-three percent of online respondents strongly agreed or agreed that they have put into practice what they have learned from their mentors, online resources, and AMP modules. No one strongly disagreed to this statement. Additionally, seventy-seven percent of these online respondents are pro-actively seeking feedback from their staff on a consistent basis. One administrator interviewed asks her staff to complete an evaluation at the end of each staff meeting. Staff also complete surveys at the beginning and end of each school year to guide her "efforts as a leader."

Overall, the program is impacting administrator behaviors and practices.

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3.2.3 Best Practices

- Mentors who are professional and meet the guidelines of the program (10 hours per month) to support new administrators.
- Collaborative develop of a Leadership Performance Planning Worksheet based on a needs assessment.
- Opportunities to attend professional development aligned to their Leadership Performance Plan as well as recommended online resources and AMP learning modules.

3.3 Career and Technical Student Organizations (CTSO's)

3.3.1 Initiative Description

Career and Technical Student Organizations (CTSOs) provide additional opportunities for students to develop and refine the skills required in their chosen occupational area through competitive event programs, community and school activities, student conferences and workshops. The Division of Career Education supports the following CTSOs: DECA, Delta Epsilon Chi, Future Business Leaders of America (FBLA), FFA, Family, Career and Community Leaders of America (FCCLA), Health Occupations Students of America (HOSA), Postsecondary Agricultural Student Organization (PAS), Phi Beta Lambda (PBL), SkillsUSA, Technology Student Association (TSA), and Young Farmer Educational Association.

3.3.2 Range of Implementation

Of the 564 schools implementing Career and Technical Student Organizations (CTSO's) 43 schools were selected for the interview process and 33 participated. All three districts selected participated in the interview process for a total of 46 interviews. The range of implementation across these 46 schools and districts was 2.0 to 4.0. Twenty two schools/districts received rubric scores of four – Deep Implementation. There is a lot of structure to CTSO's as there is national affiliation, which helps schools to implement the programs well.

Students who are enrolled or have been enrolled in a career and technical course are able to participate in the corresponding Career and Technical Student Organization. Participation rates from a sampling of schools included, 60%, 75% and 80% of students enrolled in a career and technical course. Advisors actively encourage students to participate in their CTSO by holding special events. One high school stated they hold an ice cream social for all 8th grade students each spring to "stimulate interest." Another school stated that teachers and students actively recruit students during Freshman Orientation, Open House, Fall Festival and County Fair. Additionally they provide media releases to a local radio station and conduct feeder middle school presentations.

Overwhelmingly, CTSO advisors are collaboratively developing learning activities with students that integrate and support the career education curriculum goals. The results of the online survey from the schools and districts who participated in the interview process revealed the 94% of the

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68 respondents collaboratively developed learning activities with students and on the state-wide survey conducted on CTSO's 92% of the 1892 respondents did the same.

Community service projects and service learning are a strong characteristic of a quality CTSO and evidence from several interviews provides a range of activities and learning experiences that are related to the career and technical courses of study. At one high school the interviewee stated that students assisted with the rewriting curriculum, sponsored plant sales in spring and at Christmas, provided oil changes and tire services for community members, participated in Douglas County Fair activities, Missouri Fox Trotting activities, built deer stands, porch swings, picnic tables and placed them on display and sold to them to the public, and provided machine shop services for the general public.

Real world situations and hands-on experiences are provided as a learning context for students. Ninety-six percent (96%) of the respondents whose schools and districts participated in the interview process strongly agreed or agreed that the learning experiences are problem-based. On the state-wide survey 94% of respondents agreed or strongly agreed. One high school provided examples of one CSTO that grew plants and provided needed landscaping around the city. Another CTSO supported cleaning up the environment by picking up trash in streams and adopting highways to keep clean.

Student collaboration is evident in most all of the learning experiences and supported through both surveys with 99% of schools and districts interviewed and 95% of respondents to the state-wide survey indicating they strongly agree or agree. Exemplar work from the learning experiences is showcased and displayed on bulletin boards and in trophy cases. Students have the opportunity to compete in regional, state and national competitions associated with their CTSO. One CTSO from a Career and Technical Center earned 2nd place in a National competition. At another high school after competition events, the administration sends out e-mail blasts to inform faculty about student achievements at the competitions.

Career and Technical Student Organization advisors have the opportunity to participate in professional development focusing on career education. Each summer the Missouri Association of Career and Technical Education (MCATE) hosts a conference that schools and districts support teachers and advisors to attend. There were some variations on those that could attend. In some schools and districts all teachers and advisors could attend each year and in others they needed to attend at least every other year. Several schools and districts indicated that new CTSO advisors had a mentor to support them in their new position.

Leadership is very supportive of the Career and Technical Student Organizations and provides recognition to CTSO's and students that is comparable to academic and athletic recognitions. Over 70% of online survey respondents in both surveys either strongly agreed or agreed that CTSO recognition was comparable to academic and athletic recognitions. In most schools and districts fundraising to support the CTSO's is common practice. In a few schools it was noted through interviews that the CTSO has to raise all of their funds and is not supported through the school budget as are many of the schools and districts. When funds are allocated in the school budget for CTSO's there is equity between CTSO's. If there is any difference it is a result of the number of students participating in a CTSO. Rural schools and districts are finding the funding

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of CTSO's through the school budget the most challenging as a result of the faltering economy which is straining local businesses that may have further supported CTSO's in the past.

3.3.3 Best Practices

- The active recruitment of students by both advisors and students to participate in a Career and Technical Student Organization upon entering high school.
- The recognition provided to CTSO's through displays, announcements, and email celebrations.
- Collaboratively developed learning experiences by teachers and students that are real-life, hands-on and problem-based.
- A strong state conference that is heavily attended by career and technical educators and CTSO's advisors each summer.
- A mentoring program for new CTSO advisors.

3.4 Enhancing Missouri's Instructional Networked Teaching Strategies (eMINTs)

3.4.1 Initiative Description

eMINTS offers intensive two-year professional development programs for pre-K-16 educators, helping meet the demand for teaching and learning that challenges and stimulates students as they use technology tools to acquire knowledge and skills for the 21st century. The eMINTS instructional model provides a research-based approach to organizing instruction that enables teachers to create classrooms where all students are motivated to succeed socially and academically; fully incorporate technology investments into teaching and learning; complement existing curriculum with critical-thinking requirements found in national, state, and local curriculum standards; and build enthusiasm and creativity into daily teaching

3.4.2 Range of Implementation

A total of 20 out of 22 schools and districts participated in the interview process yielding implementation ranges of 1.0 Minimal Implementation to 4.0 Deep Implementation. Three schools received an overall level of implementation score of 1.0 for the following reasons:

- A selected high school has never formally participated in the eMINTS initiative because of a lack of funding for the required technology and training components. Several teachers have attended professional development seminars sponsored by the National Center over the past 10 years, but no eMINTS classrooms have ever been established.
- A middle school site is now an alternative education building and is no longer implementing eMINTS.
- An elementary site administrator indicated that when his building was split into two school buildings eMINTS was relocated to the other building.

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A key to successful implementation of eMINTS is for teachers to have the necessary technology and equipment to implement the program. Ninety-one percent of 77 the online respondents agreed or highly agreed they had the necessary classroom equipment to provide eMINTS instruction. Schools are indicating that there is the lack of funds, after the initial funding, to upgrade equipment or to expand the program to other teachers. Classroom observations of eMINTS teachers by other eMINTS teachers is another area that is subject to funding issues. Approximately 50 percent of the eMINTS teachers have an opportunity to observe peers, again because of funding constraints.

In the schools and districts interviewed teacher participation in eMINTS ranged from one science teacher to 100 percent of the teachers. Teachers are displaying student work that exemplifies the extent to which technology is used in the eMINTS classrooms including PowerPoint presentations, computer-published writing and illustrating, pod casting, movie-making, digital storytelling, SMART Board activities and song writing. These are visible indicators of the sophistication of the products and projects created by the students.

There are several best practices evident in eMINTS classrooms including: teachers collaboratively developing with students classroom behavior norms; incorporating a wide range of technology into daily teaching and learning, incorporating authentic, real-world, project-based learning experiences; consistently using effective questioning techniques; developing rubrics for learning experiences; and utilizing eThemes to support classroom instruction. Ninety-six percent of online survey respondents agreed or strongly agreed that classroom behavior norms were collaboratively developed with students. Almost 94 percent are consistently using effective questioning techniques and 98% incorporate cooperative learning structures when students are completing learning experiences. Additionally data to support instructional practices can be found in Appendix C from the online survey. eMINTS teachers and administrators indicated when cooperative learning is combined with inquiry-based tasks students are more engaged. Interviews revealed the SMART Board is the technology used most by eMINTS teachers on a daily basis.

Professional development is extensive for eMINTS participants. There are two levels. The first year is called eMINTS 4 All and the second year is identified as Comprehensive eMINTS. The professional development includes online seminars and face-to-face instruction. Teachers develop electronic portfolios that demonstrate their learning results which are submitted to the National Center for review at the end of year two and through the school and district interviews it was estimated at least eighty percent of year two teachers have done so. eMINTS offers discussion lists and "Moodle" courses for teachers to further their professional growth. Fifty-five percent (55%) of online survey respondents indicated they have participated in a discussion list and/or have taken a Moodle course at least monthly. Ninety-seven percent (97%) of survey respondents indicated they use data from common formative assessment to make instructional decisions. Weekly collaborative time for eMINTS teachers is built into seventy-five percent of school and district schedules as shared through interviews.

Leadership practices exhibited by school administrators had a broad range of responses both through the interviews and on the online survey. The online survey data indicates a discrepancy between the number of perceived walkthrough observations conducted and the actual number.

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Administrators feel they are in classrooms on a weekly basis, but the majority of teachers feel it is less than 10 times per year. Seventy-six percent (76%) of survey respondents agreed or strongly agreed that administrators used the Hallmarks of and eMINTS Classroom "Look Fors" during their walkthroughs. Several building administrators reported that they inherited the eMINTS initiative from their predecessor and have not had an opportunity to receive the leadership training necessary to fully implement the model.

Every school and district that was interviewed indicated that the eMINTS model is a powerful and successful initiative that increases student and teacher engagement and enhances teaching and learning. Many would like to be able to expand the program to additional teachers but are struggling to find funds in the local school budget to accomplish this.

3.4.3 Best Practices

- Investment in technology such as SMART Boards to support eMINTS classrooms.
- Strong instructional practices utilized by eMINTS teachers including cooperative learning, inquiry-based learning, authentic learning experiences and effective questioning.
- Opportunities for eMINTS teachers to meet and collaborate.
- Extensive professional development that includes mentoring, online opportunities and seminars.

3.5 High Schools That Work (HSTW)

3.5.1 Initiative Description

High Schools That Work is an effort-based, data-driven school improvement initiative founded on the conviction that most students can master rigorous academic and career/technical studies if school leaders and teachers create an environment that advocates high expectations for all students, and with the motivation and support mechanisms that will help them succeed at a higher level with hard work. There are ten key practices associated with High Schools that Work: High expectations; Program of study, Academic studies, Career/technical studies, Work-based learning, Teachers working together, Students actively engaged, Guidance, Extra help, and Culture of continuous improvement.

3.5.2 Range of Implementation

Eight of the nine schools and districts selected for the Implementation Audit™ interview process participated. The implementation range for these six schools and two districts is 1.5 to 3.0. One district and one school commenced implementation of High Schools that Work during the 2009-10 school year and thus their programs are in their infancy. The majority of schools and districts did not submit any documents to review nor participated in the online survey resulting in limited information on implementation evidence.

The expectation of High Schools that Work (HSTW) is that students are enrolled in a rigorous curriculum which includes four years of English and math. Most schools and districts were

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unable to attain the rubric criteria of having eighty percent of students enrolled in the Academic Core curriculum. The Missouri Department of Education recommends a fourth year of math but HSTW schools that were interviewed typically only require three years of math. Interviews revealed that some schools and districts are struggling with teacher buy-in to the initiative.

There are several instructional practices associated with High Schools that Work classrooms including: literacy and numeracy bellringers, higher-order questioning, requiring students to defend their process for solving a problem, allowing students to resubmit work at least once to meet the standard, assigning project-based homework, using rubrics to provide student feedback, and utilizing cooperative learning structures. The number of online survey respondents ranged from 23 to 25 depending on the question. Twenty of 25 respondents indicated they strongly agree or agree that they use rubrics to provide students feedback and 20 respondents indicated they allow students to resubmit work at least once in order to allow students to meet the standard. Only fifty-two percent of online survey respondents indicated either agree or strongly agree that they meet at least bi-weekly to collaborate on data from common formative assessments that were administered and to make instructional decisions. Interviews revealed that the smaller, rural schools and districts struggle in creating time for collaboration as a result of smaller staffs and financial constraints. At this time there is little evidence through the interview process indicating staff members are developing cross curricular learning experiences for students. However, the online survey data indicates teachers are starting to incorporate literacy and numeracy bell ringers into their classrooms with fifty-two percent agreeing and twenty-four percent strongly agreeing.

In regards to professional development, a common theme emerged from the interviews. The quality of the summer professional development offered on High Schools that Work through the Southern Regional Education Board (SREB) and the Missouri Department of Education (MDOE) is beneficial to improving the implementation of High Schools that Work. Financial constraints have hampered follow-up professional such as coaching during the school year. A few schools/districts shared they have extensive professional development opportunities for staff with a focus on literacy and effective instructional strategies. Only one school/district indicated staff had participated in webinars sponsored by SREB or MDOE.

The inclusion of an advisement program to support students attaining higher academic expectations has been established in five of the six schools interviewed and they expressed a deep commitment to the advisement program. The one school that is not yet implementing an advisement program was unable to find time in their schedule. In one school, ninety percent of the teachers are advisors to small groups of students whom they stay with for four years. Advisors help students create a four-year plan based on a Career Pathway and work with them through graduation to ensure success in achieving their goals. Schools and districts are struggling with the development of a uniform homework policy. Eighty-eight percent (88%) of online survey respondents either agreed or strongly agreed that their building and/or district leadership involved the staff in collecting and analyzing data to monitor HSTW implementation effectiveness.

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For the majority of the schools and districts interviewed, progress in implementing High Schools that Work is slow and rural schools and districts are struggling to implement as financial support is limited and there are a limited number of staff.

3.5.3 Best Practices

- Advisement programs are encouraging and supporting students to enroll in the Academic Core courses.
- The school with the highest level of overall implementation indicated staff was highly committed to the High Schools that Work initiative as well as implementing key instructional strategies and embedding literacy and numeracy into classroom instruction.
- Summer professional development that is offered for schools and districts provides needed support for improved implementation.
- The Missouri Department of Education conducts a Technical Assistance Visit once every three years to assess the level of implementation and provide guidance on next steps and goals.

3.6 Making Middle Grades Work (MMGW)

3.6.1 Initiative Description

Similar to High Schools that Work, Making Middle Grades Work (MMGW) ten key practices reflect an effort-based model of school reform centered on students being able to enter high school prepared to successfully take college preparatory curriculum. The ten key practices for Making Middle Grades Work are:

- An academic core aligned to what students must know, understand and be able to do to succeed in college-preparatory English, mathematics, science and social studies courses in high school
- A belief that all students matter
- High expectations and a system of extra help and time
- Classroom practices that engage all students
- Teachers working together
- Support from parents
- Qualified teachers
- Use of data
- Use of technology for learning
- Strong leadership

3.6.2 Range of Implementation

The level of participation by schools and districts was not strong for Making Middle Grades Work (MMGW). The Missouri Department of Education provided the names of eight schools and six districts implementing Making Middle Grades Work. Through the stratified random sampling, two schools and two districts were selected but only one from each participated in the interview process and only one person responded to the online survey. Additionally, both of the

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schools that participated commenced implementation of MMGW during the 2009-10 school year; one in September, 2009 and one in January, 2010. Therefore, there is limited evidence to support the level of implementation and to identify best practices.

Both the school and district reported during the interviews that one hundred percent of the students are enrolled in academic core curriculum aligned with what students must know, understand and be able to do to enter high school and enroll in college preparatory courses. Additionally, both the school and district have commenced the implementation of Professional Learning Communities so they can "dig deeper" into the data and make data-driven decisions regarding instruction.

There are a number of classroom instructional practices that are associated with Making Middle Grades Work just as with High Schools that Work. For middle schools they include: establishing and communicating high expectations; writing daily objectives on the black/white board; posting daily literacy/numeracy or writing bell ringers; having students orally defend the process they used to solve a problem; allowing students to resubmit work in order to meet the standards; assigning project-based homework; using rubrics to provide feedback to students; providing note-taking instruction and engaging students in note-taking; and utilizing cooperative learning structures when students are completing learning experiences. Both the responding school and district indicated that the majority of staff is implementing these classroom instructional strategies. Incorporating bell ringers and having students work in cooperative learning structures appears to be the focus of both the school and district during the first year of implementation. Note-taking in the school building is a mandatory course for students. Posting learning objectives is a strong characteristic of the school district that participated.

Overall, for both the school and district there has been limited professional development and this is an area that should be a focus to improve implementation. The school has had representatives attend professional development offered by the Southern Regional Education Board, who sponsor MMGW along with High Schools that Work. The school has identified professional development needs that are aligned with the School Improvement Plan goals and objectives. For the district, the leadership team attended the SREB National Conference, but beyond that there has been limited, if any, professional development.

Leadership practices are an area that can also enhance the level of implementation. At this time neither the district nor the building has a uniform homework policy or policies on literacy and numeracy. On a positive note, both the school and the district have established advisory programs to support students in the attainment of higher academic expectations and have created a means for 8th grade students to develop a four-year high school and career plan. Several items are in place at the school building for a successful transition to high school, including career planning, career folders, career goals, the four year plan, and one transition day. Both building and district administrators have provided time for teacher collaboration either through daily/weekly scheduling or early release days once a week. Additionally, both school and district leadership have recognized the important use of data to make decisions and are determining best how to monitor the effectiveness of Making Middle Grades Work.

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As both the school and district are in the first year of implementation there is a lot of ground for them to cover to get to obtain Proficient Implementation. The use of the Making Middle Grades Work Rubric can provide guidance to support school and district implementation.

3.6.3 Best Practices

- Providing to all students a strong academic core curriculum that prepares students for high school college preparatory courses.
- Providing a specific course on note-taking to support academic achievement in the core curriculum.
- Teachers incorporating cooperative learning structures during learning experiences and beginning to incorporate daily bell ringers on literacy (including writing) and numeracy.
- Leaderships' recognition of the importance of data and monitoring implementation.

3.7 Math-Science Partnership (MSP)

3.7.1 Initiative Description

The Mathematics and Science Partnership (MSP) program is intended to increase the academic achievement of students in mathematics and science by enhancing the content knowledge and teaching skills of classroom teachers. Partnerships between high-need school districts and the science, technology, engineering, and mathematics (STEM) faculty in institutions of higher education are at the core of these improvement efforts. Other partners may include state education agencies, public charter schools or other public schools, businesses, and nonprofit or for-profit organizations concerned with mathematics and science education.

3.7.2 Range of Implementation

There are 28 schools and seven districts that the Missouri Department of Education supplied indicating participation in the initiative. Of the six schools selected none participated in the interview process and of the two districts selected one participated in the interview process. Therefore, evidence of the level of implementation and best practices are limited to the one district.

Fifteen 6-12 math teachers and 23 K-6 science teachers are participating in this federally funded grant in the one district interviewed. They highly value the partnership with their higher education institute. As a result of the partnership teachers are gaining a better understanding of their content. Many of their success stories focused on the collaborative effort both sides bring to the project. The district reports that their materials, supplies and technology needs have been met in order to provide the necessary math and/or science instruction.

There is a district-wide focus on effective instructional strategies and best practices including summarizing and note-taking, comparing and contrasting, non-linguistic representation and cooperative learning. Teachers in the district have engaged in action research projects focused on the implementation of selected effective instructional strategies. As a result of the Math-Science Partnership common formative assessments have been created by teachers and are utilized as key

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data points in their collaborative discussions. Through the interview one hundred percent of the teachers are integrating technology into the curriculum at least on a weekly basis if not daily. Providing direct vocabulary instruction is another effective instructional strategy that at least seventy-five percent of the staff implements in their classrooms.

Teachers not only have the opportunity to collaborate with each other in their respective district, but also with area districts participating in the Math-Science Partnership initiative. At times it is a challenge for the time to be carved out for teachers to meet with scientists, engineers and mathematicians to improve their content knowledge. However, the summer professional development does offer opportunities to enhance content knowledge. The upcoming summer institute will be focused on algebra.

Administration is very supportive of the Math-Science Partnership and works diligently to accommodate time for teacher collaboration with colleagues, content specialists, and observations of colleagues. Professors from the partnering university will conduct site visits and provide feedback and support to the math and science teachers participating in the grant. The walkthrough process has provided administrators with valuable data in order to make adjustments to the school improvement process. Expectations for the teachers engaged in the Math-Science Partnership have been set high. However, teaching staff feel appreciated for all the extra time and effort going into their work in implementing this initiative.

It is unfortunate that only one district participated in the interview process. However, the district has a deep level of implementation and best practices can be gleaned from this district.

3.7.3 Best Practices

- A strong partnership with an institution of higher education.
- A focus on effective instructional strategies.
- Multiple opportunities for teacher collaboration time to focus on teaching and learning through the use of data generated from common formative assessments.
- Supportive leadership with high expectations that closely monitors implementation and makes adjustments based on data collected from walkthroughs.

3.7.4 Relationship between Level of Implementation and Student Achievement

Since there is only one district a variance cannot be shown. The charts and graphs will be removed from the appendix and an explanation provided in their place.

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3.8 Missouri Integrated Model (MIM)

3.8.1 Initiative Description

The Missouri Integrated Model (MIM) is a framework that pulls together evidence-based components and processes. MIM includes:

- Tiered levels of support
- Essential features of effective schools
- Effective Implementation processes

Central in the Missouri Integrated Model framework is a focus on supporting academic achievement and successful behavior through tiered levels of support that acknowledge and address diversity in student learning. As a framework for supporting this focus are the eleven essential features of the model. These features represent the evidence-based practices and qualities congruent with effective schools, responsive intervention, and successful system-change efforts. Collectively, the tiered levels of support and the essential features are integrated within the context of schools, districts, and the state to form the Missouri Integrated Model. Specifically, the essential features of the Missouri Integrated Model facilitate work in three categories: (a) building and sustaining capacity for responding to student instructional and behavioral needs, (b) maximizing resources, and (c) making informed decisions. Within the three categories, the eleven essential features are:

Build and sustain capacity for responding to student needs

- Shared vision and commitment
- Leadership at state, district, and building levels
- Collaborative environment
- Ongoing professional development
- Educator support through mentoring and coaching
- Culturally-responsive practices

Maximize resources needed for innovation

- Resource mapping
- Family and community involvement

Make informed decisions

- Evidence-based practices
- Data-based decision making
- Progress monitoring

3.8.2 Range of Implementation

Two schools and two districts were selected for the interview process for the Missouri Integrated Model (MIM) and all four participated. The range of implementation is 1.3 to 3.0. In 2008 fourteen elementary schools across Missouri were selected to pilot this federally funded initiative. The 2008-2009 school year was a preparation year before implementation commenced in the 2009-10 school year. Schools and districts took several actions during 2008-2009 to support implementation the following year. Even though the schools and districts contacted are in the early stages of implementation there are some common practices that emerged.

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The grant funding has been a critical factor in schools and districts obtaining an academic universal screening tool. If one has not yet been purchased at this time a decision has been made on which one to purchase for implementation in the 2010-11 school year. The tool of choice thus far is AIMS Web. Those who are implementing an academic universal screening tool are doing so at least three times a year. A universal behavior assessment tool should be implemented as well; however, the rural schools interviewed did not have any behavior issues and the school in an urban area has commenced an in-house behavior assessment tool. Building Leadership teams have been developed at each school/district but as a result of the size of schools and districts participating in MIM the District Leadership Team is the same as the Building Leadership Team. A comprehensive data collection system has yet to be established in most schools and districts.

The online survey results indicated the level of commitment of staff in all four buildings was at ninety percent for committed and highly committed. Through the pilot the initiative targeted elementary schools; however one small K-12 district is using district funds in conjunction with grant funds so that MIM can be implemented K-12 and is getting some push-back from the high school staff because they are aware the initiative was being piloted in elementary schools. The schools and districts that have implemented a universal academic assessment have incorporated progress monitoring of students. The online survey results of 55 respondents indicate that 25, or forty-six percent, progress monitor weekly and 23, or forty-two percent progress monitor once every two weeks. The remaining responses indicated progress monitor occurred less frequently. All the elementary schools and in grades seven and eight in one district are using the progress monitoring data to provide tiered instruction. The elementary school in one district has even adjusted their schedule to allow for an additional 30 minutes of Communication Arts instruction and an additional 30 minutes of math instruction to further support the tiered instruction. Problem-solving teams, which are often called Data Teams in the schools and districts, have been created in three of the four schools and districts but the frequency of the meetings range from weekly to monthly. The fourth school is adjusting their schedule for the 2010-11 school year to be able to provide teachers a time to collaborate and discuss student data from progress monitoring and to make instructional decisions.

Grant funds to support professional development for staff have been extensive in some instances. A lot of the professional development is provided by the states Regional Professional Development Centers including implementing Professional Learning Communities. One school district utilized grant funds to have all teachers trained in Everyday Math, a program that was not being implemented with fidelity. As a result of the training, including visitations to area school classrooms to observe master teachers implementing Everyday Math. Another school indicated that a professional develop session on data analysis was a real "eye opener" to staff that school improvement was a necessity. Professional development needs are based on a needs assessment that was conducted as part of the Self-Study in the planning year.

The greatest benefit of MIM has been the support of an Implementation Facilitator for building and district leadership. Minimally in all schools and districts there is monthly communications usually in the form of site visits to MIM monthly planning meetings. All those interviewed indicated that the Implementation Facilitator provided valuable guidance and support as they were implementing the components of MIM including the Self-Study and developing and Action

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Plan. Schools and district leadership indicated through the interviews that the use of data is becoming embedded in the school cultures and through the tiered instruction making teachers dig deeper. For three of the four schools/districts improving communications with stakeholders is an area that needs to be improved. The district with full implementation has very strong communication with all stakeholders.

All four schools and districts believe that the Missouri Integrated Model, even in its infancy, has made the greatest impact on teaching and learning than other initiatives in the past. Those interviewed are very appreciative of the support received from the Implementation Facilitator and the financial support for supplies, and materials such as the universal screening academic tool as well as professional development.

3.8.3 Best Practices

- A planning year to complete a Self-Study in order to develop an Action Plan.
- A high level of staff commitment to implement the Missouri Integrated Model with fidelity.
- Instituting tiered instruction through the support of a universal academic screening tool and providing progress monitoring typically once per week or once every two weeks.
- Incorporating common formative assessments and conducting problem-solving or data team meetings each week in which student learning outcomes, instructional strategies, assessments and interventions are collaboratively discussed.
- Engage in professional development that supports each school or district's needs assessment.
- The support of an Implementation Facilitator for each school and district piloting the Missouri Integrated Model.

3.8.4 Relationship between Level of Implementation and Student Achievement

*** This initiative was implemented during the 2008 school year and thus we do not have two years of student achievement data to make an inference on the relationship between the level of implementation and student achievement.**

3.9 Missouri Option Program (MOP)

3.9.1 Initiative Description

The Missouri Option Program is designed to target students who are 17 years of age and who have the capabilities to complete Missouri's High School Graduation Requirements, but for a variety of reasons lack the credits needed to graduate with their class and are at risk of leaving school without a high school diploma. Students take the GED Tests to demonstrate academic proficiency, but are issued a regular diploma. There are 175 districts serving 3,000 students statewide.

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3.9.2 Range of Implementation

The Missouri Department of Education provided the names of 196 schools and 178 districts of which 21 schools and two districts of which one hundred percent were contacted for the interview process to determine the level of implementation. It should be noted that six schools received implementation rubric scores of one (1) for the following reasons:

- Four schools indicated they no longer provide the program because they do not have students that need the program.
- One school refused to participate and respond to interview questions.
- One school indicated they no longer had the necessary funds to operate the program and thus no longer offer it.

Only three of the high schools selected to participate in the audit house their Missouri Option students on their home campuses. Typically the Missouri Option Program is offered at alternative education sites or at area career and technical centers.

Missouri Option students have access to all the high school programs with the exception of a course that requires a prerequisite. A typical day for a Missouri Option program would include three hours of instruction and three hours of career education, employment or volunteering. The required courses in government, health, and personal finance are offered at their home district, the alternative site or at the career and technical center. Students who complete the Missouri Option Program are allowed to participate in graduation ceremonies. One technical center had 35 students complete the program last year and of those 27 walked with their classmates through the graduation ceremony. MOP classrooms tend to be computer based with varying software such as PLATO or A+ Learning to provide learning opportunities for students. In some of the rural school settings having adequate technology is a challenge.

There were 45 online survey respondents and of those respondents, ninety-three percent indicated they agreed or strongly agreed that they use effective instructional strategies such as summarizing and note-taking, comparing and contrasting, and non-linguistic representation. The Test of Basic Adult Education (TABE) is typically administered to students to determine strengths and deficiencies, which then guides direct teacher instruction as well as adaptive computer-based instruction. Depending on the school or district, students either receive two hours of computer –based instruction and one hour of direct teacher instruction or three hours of computer-based instruction.

Ninety-two percent of the online survey respondents agreed or strongly agreed that they have attended building/district professional development that has enhanced their classroom instructional practices. Pathways, professional development focused on at-risk students, is a typical offering that Missouri Option teachers attend. One school supported laptop training for the Missouri Option teacher. Professional development on differentiated instruction was not mentioned during most of the interviews. The Missouri Department of Education sponsors a summer conference, and of those interviewed, all except one MOP teacher attended the August 2009 conference.

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District and building leadership ensure all the state assurances for operating the Missouri Option Program are met and required paperwork is submitted in a timely fashion. It is common for the sites to have an identification process for students to participate in the Missouri Option Program. One district has a comprehensive identification and enrollment process which includes the high school counselor identifying students who have 14 credits or less towards graduation and meet the state assurances including but not limited to being at least 17 years of age and a certain number of credits behind. The TABE is administered and if the student meets the qualifications of 8th grade on reading and math subtests, the parent and student sign a contract outlining the requirements of the program. In most instances there was strong community support for the Missouri Option program and its students. Challenging economic times have made employment for students difficult. It was not a typical practice for leadership to visit other Missouri Option Programs to identify best practices to enhance their program.

As a result of the structure and requirements from the Missouri Department of Education, some of the implementation components are standard. Differentiation of programs would revolve around the technology available as well as adaptive computer-based programs, instructional practices of the teachers, professional growth of teachers, and the quality of monitoring the program by leadership.

3.9.3 Best Practices

- Students are able to walk with their classmates during graduation ceremonies.
- Students are able to enroll in all high school programs as long as there is no perquisite for a course.
- Flexibility for students to work, volunteer or to enroll in career education courses beyond their three hours in the Missouri Option Program.
- A process for identification and enrollment of students is standard across the state.
- Instructional practices that combine computer-based instruction with teacher direct instruction to meet student needs rather than solely computer-based.
- Opportunities for Missouri Option teachers to attend professional development.

3.10 Missouri Pre-School Program (MPP)

3.10.1 Initiative Description

The Missouri Pre-School Program funds support programs that prepare children to the age in which they are eligible to enroll in kindergarten. School districts and private providers are able to apply for funding through a competitive bid process. All contractors are required to license the program with the Department of Health and Senior Services. Contracts are for one year and are renewable.

There are specific assurances that the program applicants must meet including teacher certification requirements, number of hours of instruction and a implementing an approved curriculum. Preschool programs must implement a nationally recognized preschool curriculum

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model that is approved by DESE. The lead teacher and teacher assistant involved in the Missouri Preschool Project must be trained in the curriculum model. It is highly recommended that the Director/Program Administrator be trained in the chosen curriculum model. All curriculum trainings must be provided by the curriculum source. The current approved curriculum models are: Creative Curriculum, High/Scope® or Project Construct.

3.10.2 Range of Implementation

There were a combined 296 schools and district names that were supplied by the Missouri Department of Education who offer the Missouri Pre-School Program. Fifteen schools and four districts were selected and thirteen schools and three districts followed through with participating in the interviews for the Implementation Audit™. The range of implementation is from 3.2 to 4.0.

All the pre-schools selected to participate in the Implementation Audit™ are either accredited or in the process of obtaining accreditation. The lead teacher and teaching assistant are required to meet certification requirements in order to teach in a Missouri Pre-School Program. Fostering a safe and secure learning environment with developmentally appropriate supplies, materials and equipment enhances child development and learning. One school shared that staff had created an outdoor play area to support the development of gross motor skills. Another school shared that the Missouri Pre-School Program has allowed them to purchase all the necessary supplies and materials including snacks, drinks, games, puzzles, art supplies, gloves, toys, paint shirts, and blocks relieving parents from some of these expenditures. One school did indicate in the interview that they are striving to update their outdoor play area to incorporate more shaded areas, replacing old tricycles and improving soil for tree and grass growth.

There are three approved curriculum models but one hundred percent of the studied Missouri Preschool Project sites have adopted Project Construct as their curriculum. Lead pre-school teachers and teacher assistants consistently follow the protocols for implementing Project Construct including time, professional development requirements, program specific supplies, materials and resources, and technology. Project Construct was consistently named as child-centered and developmentally appropriate. Pre-school educators use assessment tools such as anecdotal records, observations, checklists, program progress reports, Early Childhood Environment Rating Scale-Revised, Development Indicators for the Assessment of Learning-Third Edition screenings, and exit assessment evaluations to inform their instruction. One district has teachers utilizing portfolios to monitor students' progress over time. They reinvigorated their portfolio efforts by engaging in a number of professional development activities this year to better equip teachers in managing portfolios and analyzing student work to inform their teaching decisions.

Missouri Preschool Project educators and school/district leadership value and engage in Missouri Preschool Project professional development trainings and often lead teachers and assistant teachers attend professional development together. The following professional development trainings were consistently listed by Missouri Preschool Project educators as integral to their professional growth: Project Construct; Moving on Together; site visits from Regional Professional Development Centers and/or literacy coaches; Conference of the Young Years; and

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Child Development Associate certification. One school shared that certified staff members meet weekly in Professional Learning Communities to reflect and discuss best practice, probe into specific interest areas related to professional development studies, and discuss/problem solve instructional practices in response to students' strengths and needs.

All preschool educators interviewed said that the Missouri Preschool Project has strengthened their capacity to better prepare students academically and socially for Kindergarten and primary grade curriculum and standards. This was also supported by online survey results. One hundred percent of the 41 online survey respondents agreed (7%) or strongly agreed (93%) that having the Missouri Pre-school Project within the elementary schools provides students with the necessary academic foundations to set them up for success upon entering kindergarten. Only one online survey respondent disagreed with the statement, "Leadership coordinates special education services with Missouri Pre-School staff to support student growth and development." Leadership is providing opportunities for pre-school teacher collaboration and a few leaders are dabbling with providing collaboration time with vertical teams of teachers. One hundred percent of online survey respondents agreed (24%) and strongly agreed (76%) that their Missouri Pre-School Program supported school and district families by providing ongoing educational opportunities and resources.

The schools and districts participating in the Implementation Audit™ are implementing the Missouri Pre-School Program at proficient and higher levels. Similar to other Missouri initiatives, there are certain assurances that the programs must meet. For this particular initiative, meeting those assurances is connected to continuation of funding for the program. However, programs have the ability to go beyond the requirements to further enhance their programs and most of them have done so.

3.10.3 Best Practices

- Developing outdoor areas and activities to strengthen the gross motor skills of children.
- It is interesting that of the schools and districts selected all have chosen Project Construct as their curriculum model.
- The use of a variety of assessment tools, beyond the exit observational assessment, by teachers including anecdotal records, observations, checklists, the Early Childhood Environment Rating Scale-Revised and Development Indicators for the Assessment of Learning-Third Edition screenings.
- Attendance at a wide-range of professional development workshops and seminars to support teaching and learning of pre-school children.
- Attendance by both the lead teacher and teaching assistant at professional development workshops including specific to the curriculum.
- Leadership providing teacher collaboration time for pre-school teachers and occasional opportunities with primary school teachers for vertical alignment.

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3.11 Missouri Reading Initiative (MRI)

3.11.1 Initiative Description

Missouri Reading Initiative is dedicated to working with Missouri public schools to ensure every student will read and write proficiently. It is a multi-year (minimum three years), on-site, professional development training program in classroom techniques in literacy for pre-K to 12th grade teachers in Missouri schools. The MRI was developed from research based models of balanced/comprehensive literacy instruction; the findings of the National Reading Panel; annual reviews of literature and research by MRI staff; and over ten years experience in the field involving hundreds of schools, thousands of teachers, and tens of thousands of students..

3.11.2 Range of Implementation

Three of the selected five schools and one of two districts participated in the Implementation Audit™ process for the Missouri Reading Initiative (MRI). The range of implementation for these four schools/districts is 2.2 to 3.7. The school representation includes one middle school and two elementary schools.

The Missouri Reading Initiative guidelines promote 90 minutes of reading instruction and 60 minutes of writing instruction. At this time none of the schools or districts has allotted this amount of time in their schedules for K-6 reading and writing instruction. One school has 45 minutes of reading instruction and 45 minutes of writing instruction. Another school has a 90 minute literacy block and a 30 minute independent reading time. An area where schools/districts have made strides is in building well organized classroom libraries with a variety of reading levels and genres. A few of the schools are providing mini-lessons and incorporating guided reading groups. One school has created a comfortable seating area near the classroom library to invite students into the world of reading. All schools and the district are able to provide substitutes when there is Missouri Reading Initiative professional development. This demonstrates a commitment to the program by leadership in the respective buildings and districts.

Teachers both at the elementary and secondary level are utilizing a wide range of formative reading assessments. Formative assessments that were common among the schools/district at the elementary level included the Developmental Reading Assessment (DRA), running records, and anecdotal records. At the secondary level the district indicated that formative assessments using writing prompts and exit or entrance slips was a common practice but at the middle school they were not yet a common practice. Three out of the four schools/districts are implementing Reader's and Writer's Workshops models of instruction. Specific literacy related instructional strategies that were shared through the interviews included mini-lessons, read-alouds, journaling, and visualization. The one participating district shared that teachers are modeling or demonstrating comprehension through before, during and after reading strategies. Think –

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Alouds is an excellent instructional strategy to help students develop their metacognitive reading abilities.

The Missouri Reading Initiative focuses on extensive literacy professional development through coaching, modeling, observing, and collaboration. Depending upon the year of implementation and grade level determines the number days but can be as many as 22 for K-3 during year one. There is a specific training for new teachers, which is three days in length, on the Missouri Reading Initiative as well as administrator training, which is 4 days. One school indicated that after the initial twelve days of MRI training there has been limited follow-up support. Whereas smaller, rural districts are indicating it is a challenge for them to engage in all the professional development that is offered. One schools work through the Missouri Reading Initiative has engaged the faculty in developing a balanced literacy model of teaching and learning for their school. This school credits the success of their Missouri Reading because they can now correlate the changes in their teaching to the improvement in their students' literacy achievement. This is a great observation by this school because they are not just looking at the effect data but the cause data- what the adults are doing.

Building and district leadership involvement in the planning, implementation, and monitoring of the Missouri Reading Initiative revealed through the interviews that it is critical to the success of the program and impact on student achievement. One school credits their success in implementing the Missouri Reading Initiative to the fact that both district and building leaders attended the year one professional development training with their teachers. This allowed them to establish a common language that could be reinforced during classroom walkthroughs. Leaders further supported implementation by providing substitutes while teachers received professional development and enhancing classroom libraries. One school leader has established literacy teams that meet once per quarter. The focus during these literacy team meetings is to teach each other effective strategies and shares successes and challenges of strategies implemented. Leaders are beginning to move beyond the effect data and trying to determine the Missouri Reading Initiative cause data. The classroom walkthroughs that are being conducted are a great means to collect cause data.

The Missouri Reading Initiative is a powerful professional development initiative focusing on literacy to ensure students can proficiently read and write on grade level. The instructional practices that teachers and administrators are learning and implementing have the potential to in student achievement gains. The professional development is building capacity within the building to support literacy across the curriculum.

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3.11.3 Best Practices

- Funds were available to allow teachers to enhance classroom libraries and provide a wider range or reading levels as well as genres.
- Leadership is demonstrating a high level of commitment to the initiative by supporting teachers with substitutes who are attending professional development.
- Literacy related instructional strategies being put into practice after professional development including read-alouds, think-alouds, mini-lessons, and journaling.
- Professional development that is differentiated for new teachers and administrators.
- Literacy teams that support instructional strategies learned and implemented in the classroom.
- The start of administrators in collecting and analyzing both effect data and cause data.

3.12 Missouri Virtual Instructional Program (MoVIP)

3.12.1 Initiative Description

MoVIP is an alternative instructional delivery method. Students receive education instruction online. MoVIP provides online education to students with the following needs:

- Students wanting advance classes that may not be available in their school (AP, trigonometry etc.).
- Students who are medically fragile and are unable to attend school.
- Students who cannot take a course because of a shortage of certified teachers, typically in rural areas.
- Students with scheduling conflicts.
- Students with credit recovery needs.
- Students with special needs (autism, Asperger's, etc.).
- Students who are at risk or have dropped out of school.
- Students who are unable to receive gifted instruction in their home school.
- Students who are currently outside the state.

3.12.2 Range of Implementation

A total of sixteen district names were submitted by the Missouri Department of Education indicating these districts implement the Missouri Virtual Instructional Program (MoVIP). Four were selected to participate in the state-wide Implementation Audit™ with two actually completing the process. Additionally, only one person responded to the online survey which is not sufficient data to incorporate into the level of implementation. Therefore, evidence of the level of implementation and best practices are limited to the two district interviews and any documents that might have been received electronically from the districts.

The two district interviews revealed that the information coming from the Missouri Department of Education is excellent. One district had 78 students enrolled and MoVIP mainly to gain access to Advanced Placement courses. The district indicated that enrollment was down as a

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result of no state funding and the district needed could only purchase a certain number of slots. The other district only had three students enrolled in MoVIP as a result of suspensions or being homebound for medical reasons.

Counselors play a critical role in monitoring MoVIP student progress. In one district the counselor monitors student progress on MoVIP's student organization system each week and the MoVIP instructors only contact the district if there is a problem with student work. In the other district the MoVIP instructors contact the building principal and/or the counselor typically via email once every two weeks and communicate with the students and parents regarding the communication with the MoVIP instructor.

Professional development on MoVIP is relayed through the counselor to building staff. Information meetings provided by the Missouri Department of Education have been Town Hall style meetings. One district counselor attended the initial 2007 training and both updates in 2008 and 2009.

Leadership indicates that having the program available has opened learning opportunities for students but it will be a growing challenge to fund the program through the local budget so students can continue to enroll in rigorous courses. Another challenge to for this district is enrolling the students who will have the greatest success with the program. In the second district, individual students have had successes and their greatest challenge is the utilization of the MoVIP student management system.

Overall, both districts are please that students have access to MoVIP to enrich their learning experiences or maintain their learning experiences.

3.12.3 Best Practices

- Communications from the Missouri Department of Education on MoVIP.
- Monitoring capabilities through the student management system on MoVIP.
- The ability for students to challenge themselves by taking rigorous courses and /or being able to maintain their learning progress while at home for long durations of time as a result of various reasons.

3.13 Professional Learning Communities (PLCs)

3.13.1 Initiative Description

The Missouri Professional Learning Communities Project is a comprehensive school improvement program that offers guidance to Missouri schools in their efforts to focus on the fundamental purpose of schooling (learning); develop a vision of their ideal school where all students learn; commit to behaviors that will help reach the vision; and set goals that are SMART (specific and strategic, measurable, achievable, results-oriented, and time-bound). In a PLC, school efforts focus on improving student achievement.

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Professional learning communities see student learning, not teaching, as their mission. The policies, instruction, curriculum, programs, professional development, and other functions of the school all support student learning. In maintaining this constant focus on learning, four questions become paramount:
1. What should students know and be able to do?
2. How will the school determine that students have learned the essential knowledge and skills?
3. How will the school respond when students do not learn?
4. How will the school respond when they already know it?

The state PLC school-improvement model focuses on increasing student achievement by building the capacity of school personnel to create and sustain the conditions that promote high levels of student and adult learning.

3.13.2 Range of Implementation

The Missouri Department of Education included 334 schools and 89 districts to be considered for the Implementation Audit™ for Professional Learning Communities (PLCs). Twenty nine schools and four districts were selected to participate and they completed the interview process. The range of implementations is 2.0 to 4.0. The lower end of the range is more a result of the year in which the school or district commenced implementation as the professional development model is over a three year cycle. Additionally, there are two sets of online survey results to help further understand the level of implementation of Professional Learning Communities across the state of Missouri. First is the online survey distributed to those schools and districts who participated in the full Implementation Audit™ process. This survey had a range of participation of 791 to 806 depending on the question. The second survey was distributed across the state and the range of participation, depending on the question, was a low of 2613 to a high of 2701.

Establishing a consistent meeting time for Professional Learning Communities is a proven best practice. Seventy-seven percent of online survey respondents from the schools and districts participating in the Implementation Audit™ process either strongly agreed (28%) or agreed (47%) that their PLCs meet on a regularly scheduled day and time at least once every two weeks for at least one hour during their regularly scheduled day. The online state-wide survey revealed that eighty-one percent agreed or strongly agreed to this statement, indicating that schools and districts across Missouri are embracing Professional Learning Communities and incorporating a consistent day and time for teacher collaboration. A high school that began PLC implementation in 2008 has established weekly content area PLC meeting time. At a Missouri middle school content area teams meet weekly and grade level teams meet monthly. Additionally, a meeting template is used to guide the meeting structure. Small, rural schools have to be creative in forming PLC teams since common grade level or course teams are not options when there is only one teacher for a grade level or course. Through interviews it was discovered it is common for schools to have teachers be members of two PLCs; a grade level team and an interdisciplinary team or vertical team. Another characteristic of quality PLCs is having all faculties, including support staff, as active participants on a PLC. The online survey results from those participating in the Implementation Audit™ reveal that twenty-eight percent

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strongly agree with this statement and forty-nine percent agree. One school has instituted late start days on Wednesday's to allow for active participation by all faculty members.

There are several best instructional practices associated with PLCs of which many are associated with the four key questions of:

1. What should students know and be able to do?
2. How will the school determine that students have learned the essential knowledge and skills?
3. How will the school respond when students do not learn?
4. How will the school respond when they already know it?

During PLCs, teachers make collaborative decisions on the learning outcomes for students, the instructional strategies to use to help students attain the outcomes and the assessment used to monitor student progress in attaining the outcome. Through the interviews the most common instructional practices associated with PLCs included establishing the learning outcomes, utilizing common formative assessments, developing SMART goals, and using data to make instructional decisions. One high school shared that each of their "Professional Learning Community teams develops their own SMART goal and creates a pre- and post-test to assess it." At a Missouri elementary school, "teachers create SMART goals that focus on student achievement and the essential learning outcomes for each grade." Schools that are in their first year of PLC implementation appear to start implementing PLCs by identifying the essential learning outcomes. This was the situation with K-8 school with a school population of about 100 who commenced PLC implementation this year by forming collaborative teams identify essential learning outcomes. One high school not only identified essential learning outcomes, but also established "the ten most important things a student needs to know before leaving a course."

On the same note, schools struggling to implement PLCs with fidelity are typically lacking the use of common formative assessments and using those formative assessments to determine the best instructional strategies to use. The online survey for schools and districts participating in the Implementation Audit™ support the need for further developing a better understanding and use of common formative assessments. Forty-eight percent (48%) agreed that they consistently use common formative assessments throughout an instructional unit and monitor student progress and make instructional decisions based on student data. Only nineteen percent strongly agreed to this statement. The state-wide online survey revealed slightly higher results with fifty-three percent agreeing and twenty-eight percent strongly agreeing. Information shared from a high school in its third year of PLC implementation has still yet to develop and administer common formative assessments. The school has made a cultural shift from a focus on teaching to a focus on learning. At another high school they have instituted the great practice of having teachers on a PLC observe one another to view implementation of teaching strategies. A focus for another high school is to developing an "inventory of instructional strategies." There was no evidence revealed through the interviews that schools or districts have instituted collaborative scoring of student work, which is a powerful practice for teachers to come to a common understanding of expectations which is also fair and equitable for students.

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Schools and districts are at different levels of implementation. Some of these are solely based on the year implementation commenced and others are a result of changing the culture of a building or district before being able to make changes in instructional and assessment practices.

The Regional Professional Development Center (RPDC) provides a train-the-trainer model for Professional Learning Communities, which is very effective. Additional follow-ups support in implementing PLCs is available as well. Typically a Leadership Team attends a PLC training session at their regional center and then return to their home district to deliver it to their staff. There are some schools in which the entire staff attends the professional development on PLCs offered by their RPDC. A magnet school took this approach and 100% of teachers and administrators received professional development on formation and implementation of Professional Leaning Communities offered by the Regional Professional Development Center. After the initial professional development, Leadership Teams attend monthly trainings at the RPDC, which in turn they bring back to their staff. Topics each month vary. For instance, in one school they are focusing on "essential learning outcomes, and the importance and mechanics of establishing Professional Learning Communities" and at another the monthly focus is on "depth of knowledge and level of rigor." The RPDC staff is well respected and very valuable. Districts and schools consistently reported that they never could have implemented PLCs without the help of the Regional Professional Development Centers.

When schools and districts make a commitment to implementing Professional Learning Communities it goes beyond just finding time for teachers to collaborate. Professional Learning Communities are about building a culture focused on learning. Embarking on the professional development for PLCs is a commitment by the building and/or district leader as well as the Leadership Team. It is a commitment to make changes in adult actions. Some leaders have established "dedicated times" on the year calendars for PLC collaboration.

As the adage goes, actions speak louder than words. Leaders not only establish high expectations for students and staff, but they are communicated through actions and words every day. The principal in of one school communicates his high expectations through classroom walkthroughs and the notes he leaves students and teachers. He exudes the attitude of "no room for failure" during his walkthroughs. The Leadership Team of one school communicates high expectations and students know it is not okay to not do quality work.

Monitoring the implementation of PLCs is a necessary leadership action. One school principal collects "artifacts, scoring guides, assessments and team feedback sheets" from PLC meetings. The Leadership Team from another school uses "formative and summative assessment data to monitor the effectiveness of Professional Learning Communities"

Professional Learning Communities is a powerful practice and the Missouri Department of Education through the efforts of the Regional Professional Development Centers has developed a professional development model to support the implementation of PLCs in schools and districts over a three-year cycle in which each year schools and districts go deeper with implementation.

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3.13.3 Best Practices

- A common day and time for Professional Learning Communities to meet.
- PLCs identifying essential learning outcomes.
- Establishing a structure to follow during PLC meetings including actions such as analyzing student work, creating SMART goals, and determining instructional strategies.
- The use of common formative assessments.
- A well respected Professional Learning Communities train-the –trainer model offered by the Regional Professional Development Centers.

3.14 Project Lead the Way (PLTW)

3.14.1 Initiative Description

Project Lead The Way® Inc. (PLTW Inc.) is a nonprofit organization that promotes high-quality science and engineering curricula for middle grades and high school students. The Southern Regional Education Board (SREB) works in partnership with PLTW Inc. to increase the number and diversity of graduates from *High Schools That Work* and *Making Middle Grades Work* schools who are preparing for postsecondary studies and careers in engineering and biomedical sciences. PLTW Inc. offers middle grades pre-engineering courses, a high school engineering program of study and a high school biomedical sciences program of study. Through an engaging hands-on curriculum, students develop problem-solving skills, critical thinking, creative and innovative reasoning, and a love of learning. Schools receive assistance from SREB in staff development, counselor training, equipment selection, and program planning.

3.14.2 Range of Implementation

Nine schools and one district, for a total of ten schools and districts, were selected to participate in the Implementation Audit™ for Project Lead the Way (PLTW). The range of implementation is 2.0 to 3.8.

In order for a Project Lead the Way program to be implemented well it is important that the classrooms have the necessary supplies, materials and equipment to support engineering and biomedical sciences. There were 23 respondents to the online survey and 12 (52%) strongly agreed that the necessary items to instruct their course have been purchased. An additional 10 (43%) agreed with this statement. In one particular high school, a new wing to the school was built to accommodate the PLTW program and all the necessary supplies and equipment were ordered to teach the PLTW courses. A common theme that emerged during the interviews is the fact that schools has developed strong relationships with educational institutions and businesses in the local area supporting engineering and the biomedical fields. One high school has two local community colleges, the Kansas City Power and Light Company and three engineering firms that support the Project Lead the Way program in their school. The Architecture, Construction and Engineering (ACE) Program of America, Inc. have developed connections with many of schools offering PLTW.

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Instructional practices that should be evident in a PLTW classroom include the integration of math, science and technology in learning experiences. Of the 23 respondents 96% (22) are consistently integrating math, science and technology. One school has been provided a "HP mini-notes computer" and students can access the internet through the wireless network. In Project Lead the Way classrooms, students should be engaged in inquiry-based projects that they complete in interdependent teams and interviews revealed this is a common practice in PLTW classrooms. During one interview it was expressed that having students work in interdependent teams requires them to "learn and teach together in a collaborative setting," and "teaching students how to be leaders in and out of the classroom." The online survey results indicate that 20 of the 23 respondents (87%) agreed or strongly agreed that they have students work on inquiry-based projects in interdependent teams. Further, one hundred percent of respondents agreed or strongly agreed that students have the opportunity to lead lessons, or be a peer mentor to a classmate. A building leader indicated during the interview process that the teacher provides multiple opportunities to develop student leadership skills and that at times it "pulls kids students out of their comfort zone." Unfortunately, in one particular school, the PLTW is a part-time employee who works multiple schools, and at this time does not embrace the instructional practices supported by Project Lead the Way and thus little improvement or changed has been made in instruction. .

Teachers who become Project Lead the Way instructors attend a required professional development specific to the course they will teach. The two-week course was described as "remarkable" and that it encouraged the development of collaboration between PLTW across the state to support each other. A particular high school teacher who has been a PLTW teacher for four years uses the teacher mentor program, Virtual Academy and other web-based sources to gain more resources to enhance instruction. The most common online survey response was accessing these resources once every two weeks. Specific results can be found in Appendix C. One hundred percent of the online survey respondents agreed or strongly agreed they have attended professional development on effective instructional strategies.

Many of the schools have a School Improvement Teams but they do not have a Project Lead The Way Leadership Team that includes teachers, partnering businesses and community members. Of the schools and districts interviewed there was one school who participated in a district team but not a PLTW team specific to their high school. Leadership at PLTW schools is making strides in ensuring successful programs and means to promote them to students. One particular high school has developed a plan to increase participation with a particular focus encouraging more girls to participate. Another school does have a Leadership Team to help implement, guide and evaluate the Project Lead the Way program and there is teacher, district, and community and business representation.

A common practice that was revealed through the interviews was the consistent use of classroom walkthroughs to monitor Project Lead the Way classroom and instructional effectiveness. In one school, the building leader indicated that the Superintendent's expectation is conduct weekly walkthroughs on every teacher. Another interview revealed that the Leadership Team conducts walkthroughs and gather data to assess the PLTW program and make adjustments as deemed necessary. Forty-three percent of online survey respondents indicated that building administrators conduct weekly walkthroughs and provided feedback.

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Project Lead the Way has changed the instructional practices of participating teachers and has allowed for students to engage in engineering and biomedical studies through an inquiry-based approach while developing collaboration and leadership skills.

3.14.3 Best Practices

- Commitment to Project Lead the Way with purchasing of materials, supplies and equipment. In a few instances, adding an appropriate instructional space for the program.
- Strong relationships with local educational institutions and engineering and biomedical businesses.
- Integration of math, science and technology during instruction.
- Inquiry-based projects that are completed by interdependent teams.
- Ability for students to develop leadership skills.
- Specific professional development to the PLTW course.
- Multiple resources and support options including mentors, a Virtual Academy and web-resources.
- Leadership actions to monitor Project Lead the Way including walkthroughs to collect data and developing plans to increase participation and the program.

3.15 Response to Intervention

3.15.1 Initiative Description

Response to Intervention is a framework to allow for instructional and behavioral effectiveness through the use of evidence-based practice, systematic data collection, and data-based decision-making within a tiered model. Core components include high quality, scientifically-research based core instruction, universal screening and progress monitoring, data-based decision making, well-functioning problem solving teams, tiered model of evidence-based interventions, and fidelity of implementation.

3.15.2 Range of Implementation

The range of implementation for the one school and two districts, who were selected to participate in the Implementation Audit™ for the Response to Intervention initiative are 2.1- 3.4. The Missouri Department of Education selected the two districts and one school. There was one school randomly selected that did not participate in the implementation study.

Two of the sites are in their second year of implementation and the third site is in its third year of implementation. At this time, all three sites have are to some extent implementing the three tiered approach to instruction. One site has a designated 30 minutes each day to school-wide tiered instruction. A universal screening tool has been established for two of the three sites and the third has been selectively using an assessment tool on identified students in kindergarten through second grade. A universal screening tool, AIMS web, is being considered for this district. The school site develops a yearly schedule to distribute at the start of the year outlining

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Response to Intervention expectations and clearly established dates for certain tasks such as the administration of the universal screening tool, and problem-solving meetings. The two districts are in the process of establishing clear guidelines and protocols to support the implementation of Response to Intervention. One district has taken the step and created Student Assistance Teams to support Response to Intervention efforts. The other district has been studying through their Professional Learning Communities the question, "What do you do when students don't learn it?" This has assisted to further refine RTI for the district.

Common themes in instructional practices that have emerged are the fact that Response to Intervention has promoted the use of research-based instructional strategies through a three tier approach and that teachers are better equipped to support struggling students. Using a wide range of assessment practices and tools to progress monitor appears to be an area that could be enhanced to provide more data to make inferences on student learning and progress. The online survey shows that forty-five percent of the 33 responses progress monitors tier 2 and 3 students weekly. Another twenty-one percent progress monitors students biweekly. The remaining thirty-four percent progress monitor once a month or less. An effective practice shared by the school site is the use of flexible grouping for reading and math and using formative assessment data to make decisions on grouping. Teachers meeting as Problem-solving teams to analyze student data and determine intervention strategies is another common theme that emerged. The online survey reveals that 89% (33) of the 37 respondents agreed or strongly agreed that they meet and analyze student data to determine responsive interventions.

With respect to professional development to implement Response to Intervention, 66% (24/36) of the online survey respondents indicated they had attended professional development offered by the Regional Professional Development Center staff on the Response to Intervention and the three tier model. Response to Intervention sites has engaged all or most of their faculties in numerous professional development efforts supporting the implementation of the three tier model. Some of topics of professional development that teachers and administrators have attended include: Targeted Instructions and Interventions, Practical Strategies to Support Struggling Students, Differentiated Instruction and Assessment for Learning. Interestingly enough, only thirty-five percent approximately 12 of 36, of online survey respondents selected "yes" to the statement, "I have attended advanced professional development in analyzing student data." One site has achieved just ten percent participation in Response to Intervention training efforts.

All three sites have established some form of Response to Intervention Leadership Team either at the building or district level, with the intent to support the implementation efforts of RTI. All three sites have allocated time for teachers to meet in problem-solving teams so they have the opportunity to analyze student data and to determine responsive interventions based on student needs. Classroom walkthroughs, according to the online survey data, range from 28% (10) indicating weekly walkthroughs 36% (13) indicating administrators conduct walkthroughs less than once a month. Less than once a month had the highest percent of respondents. One district is placing the final touches on classroom walkthrough procedures and protocols.

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As only one site is completing its third year of implementing the Response to Intervention Model, with the other two only completing their second year, this may account for the range of implementation being a low of 2.1 to the high of 3.4.

3.15.3 Best Practices

- Identification and use of a universal screening tool.
- Establishment of teacher problem-solving teams and supporting them with a common meeting time.
- Flexible grouping during reading and math instruction
- Creating a comprehensive calendar indicating important dates for certain RTI tasks such as universal screening and problem-solving team meeting dates.
- Engaging all staff in quality professional development on the three tier model as well as on topics supporting the implementation of the three tier model.
- The establishment of a RTI Leadership Team.

3.16 Satellite Academy Program (SAP)

3.16.1 Initiative Description

The Satellite Academy Program (SAP) is a blend of regional and statewide learning experiences aimed at achieving a greater understanding on the program's three objectives. Participants are encouraged to deepen their understanding of their own strengths and weaknesses and to bring out the strengths of others; to gain a greater understanding of what it means to act as an agent of change in their communities, and to grow their understanding and to function within a professional community of learners. This year-long academy is designed to continue the learning of leaders who have move through the phase of preparation and into practice. It is an essential component of Missouri's leadership development continuum. The breakdown of participants is approximately twenty percent master teachers (teacher leaders) and eighty percent administrators.

3.16.2 Range of Implementation

One of the three schools selected actually participated in the Implementation Audit™ process for the Satellite Academy Program (SAP). The level of implementation for this school is 3.5. Qualitative information will be provided on the initiative, but there can be no inferences made from data based on one school.

The administrator participating in the program went through during the 2008-09 school year and attended the "kickoff meeting," all regional and state meetings, the outdoor orienting learning experience and graduation.

A core component of the program is the development of a personal improvement plan which Satellite Academy Program facilitators engage administrators and lead teachers in developing

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and monitoring. Facilitators encourage SAP participants to use a journal to reflect on established goals and progress in attaining those goals.

At the state meetings national presenters were providing the learning experiences to SAP administrators which often helped the administrator to process situations at her school building. She continues to reach out for support from SAP mentors to seek clarification on issues and ask questions.

As a result of the Satellite Academy Program the building administrator intensified certain efforts put in place in her building including but not limited to: the Reading to Intervention process, continuing the development of their Professional Learning Communities, and dealing with resistance and conflict. The administrator did complete a Data Fair research topic which was both shared with SAP program participants and then with select members of her staff.

This particular administrator developed additional leadership competencies through her involvement in the Satellite Academy Program, but the limited number of schools and district participating in the Implementation Audit™ prevent any inferences from being made.

3.16.3 Best Practices

- Establishing a personal improvement plan.
- Writing reflectively in a journal on goal attainment progress.
- Conducting a Data Fair research project.
- Opportunities to develop a network of colleagues for future support.

3.17 School Administration Manager (SAM)

3.17.1 Initiative Description:

The School Administration Manager or SAM project is a strategy designed to change the role of the principal from the managerial leader to the instructional leader, resulting in an increase in time spent on improving teaching and learning.

- SAMs is a process to focus principal time on instructional leadership, teaching practice, student learning and school improvement.
- SAMs is not primarily a person, but a function.
- SAMs is primarily a change process where the principal uses daily time/task data and reflection to influence his/her own practice.
- There are a variety of SAM models: creating a new position, converting an existing position or adding duties to an existing position.

3.17.2 Range of Implementation

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Only one district was selected to participate in the Implementation Audit™ of the School Administration Manager (SAM) initiative. The level of implementation for the district is 2.5. The program was first implemented in the fall of 2009. There are approximately thirteen district employees that are presently utilizing the School Administration Manager. Limited information on the level of implementation can be provided solely based on the findings in one district.

All of the participating district administrators have completed the shadowing process; however perception data was not collected prior to the five day shadowing experience. The Time Change Coach does ask district administrators reflective questions to ensure a focus on what needs to be accomplished is established. It has become a daily ritual for administrators to track tasks on the *Timekeeper* software. One administrator stated, "If you don't access it every day, you're lost." It is not apparent from the qualitative data that district employees meet with the School Administration Manager daily to establish goals but they do access the School Administration Manager website daily.

The Superintendent does meet with the Time Change Coach each month for approximately one hour. He has recognized that the prior to engaging in the School Administration Manager initiative he knew he was busy, but did not know what he was busy with all the time. He can now account for how he spends his time and can provide hard data to his Board of Education. The School Administration Manager website has a wealth of resources to assist administrators in moving completing managerial tasks and focusing more on instructional responsibilities.

District leaders are recognizing that the SAM is helping to use time more efficiently. Presently, there are no means to monitor the effectiveness of SAM and its impact on student achievement. At this time the superintendent has not been able to spend more time in classrooms, but with additional use of the SAM, he hopes over time this will be the reality. The superintendent offered the following closing evaluation of the School Administrator Manager: "This is an absolutely great program. It is an absolute challenge. The outcomes are outstanding. Something that we value a great deal is the month-to-month coach who comes in and helps us refocus our goals."

As with most new initiatives there is a time period in which the users need to make adjustments to ensure fidelity to the initiative. The implementation of SAM appears to be no different.

3.17.3 Best Practices

- The use of the *Timetracker* software.
- Meetings with the Time Change Coach.
- Online resources available on the School Administrator Manager website.

This initiative was first implemented in October 2009. Thus we do not have two years of student achievement data to make an inference on the relationship between the level of implementation and student achievement.

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3.18 School-Wide Positive Behavior System (SWPBS)

3.18.1 Initiative Description

School-wide Positive Behavior is intended to improve student academic and behavior outcomes by ensuring all students have access to the most effective and accurately implemented instructional and behavioral practices and interventions possible. SWPBS provides an operational framework for achieving these outcomes. It is a decision making framework that guides selection, integration, and implementation of the best evidence-based academic and behavioral practices for improving important academic and behavior outcomes for all students. There are seven components to School-wide Positive Behavior System:

1. Administrator support, participation and leadership
2. Common purpose and approach to discipline
3. Clear set of positive expectations and behaviors
4. Procedures for teaching expected behavior
5. Continuum of procedures for encouraging expected behaviors
6. Continuum of procedures for discouraging inappropriate behaviors
7. Procedures for ongoing monitoring

3.18.2 Range of Implementation

Fourteen schools and three districts were selected to participate in the Implementation Audit™ for School-wide Positive Behavior (SW-PBS) and there was one hundred percent participation. One school that was contacted indicated that does not implement the initiative and never has according to both the principal and assistant principal. The range of implementation is 1.0 to 4.0. The majority of schools and districts commenced implementation in the 2007-08 school with three schools and/or districts implementing SW-PBS longer. In addition to online survey data for schools and districts participating in the Implementation Audit™ a second online survey was distributed across the state which will provide greater clarity to the range of implementation.

As with any new initiative, having a high level of commitment by those implementing the initiative will result in deeper implementation levels and implementing the initiative with fidelity. For those schools and districts selected to participate in the Implementation Audit™ there were one site that did not have a commitment level of at least 80% or higher with many schools and districts indicating one hundred percent. The online survey for schools and districts in the study, the number of responses ranged from a low of 222 to a high of 231. Of those responding, sixty-two percent selected the descriptor of highly committed and thirty-four percent selected committed further supporting the level of commitment to SW-PBS. With such a high level of commitment it is clear to understand that Tier 1 SW-PBS is being implemented with 85-90% of the students. It should be noted that the school with the lowest level of commitment from staff had the lowest level of implementation. A common characteristic between the majority of the 17 schools and districts is the consistent use of the School-Wide Evaluation Tool (SET) and self –assessment to develop the Action Plan that contains seven components. The Positive

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Behavior Support team and coaches develop the Action Plan. Through the interviews it was revealed that only one school did not have a coach to support SW-PBS.

There are several instructional practices associated with the implementation of School-wide Positive Behavior for those schools and districts consistently following through resulting in deeper levels of implementation. Through the online survey sixty-six percent of respondents strongly agreed and thirty-three percent agreed that they "directly and formally taught the collaboratively defined school wide behaviors and expectations." At one school the morning pledge is said which is a reminder of the universal expectations of respect, safety, and responsibility. Results on the state-wide online survey with a range of respondents from 2248 to 2311 had a slightly lower percent of forty-three percent that strongly agreed and forty-five percent that agreed with the statement. Another instructional practice supporting SW-PBS is the need for teachers to hold students accountable for to the expected behaviors and applying consistent consequences for undesirable behaviors. Through the interviews the majority of schools and districts indicated that more than eighty percent of the staff did follow through with holding students accountable. The online survey results further support these findings with seventy-two percent strongly agreeing and twenty-seven percent agreeing that they hold students accountable. The statewide survey showed dramatically different results with only thirty-four percent strongly agreeing and forty-nine percent agreeing. It is very clear that a common practice to track data using the "Big Five" which includes who, what, where, when and why a behavior occurs. On a positive note a school shared that the consistency and common language associated with SW-PBS to communicate expectations has significantly decreased office referrals.

Professional development on School-wide Positive Behavior implementation is valued by the schools and districts. Of the 17 school and districts there was only one building that did not send a SW-PBS Leadership Team to the August 2009 two and one half day conference. Coaches are able to attend regional training sessions to support the implementation of tier two and tier three SW-PBS and the some school coaches attend monthly and others attend quarterly. A common statement made during interviews was the request of SW-PBS Leadership Teams to have more opportunities for site visits of exemplary programs, but funding is curtailing these efforts.

The SW-PBS Leadership Teams at the majority of school and district sites have developed extensive incentive and reward systems for students and teachers to celebrate positive behavior successes. Through the data collection of the Big Five, building leaders share the information at monthly faculty meetings. One school tracked the data over a year which resulted in a decrease of 100 office referrals from 2007 to 2008. One high school principal supports the initiative 100% because of the dramatic improvement in the school climate after the implementation of SW-PBS. He requires the action plan to be visible on teachers' desks and classroom observations and walkthroughs include Positive Behavior Support elements.

Even though the range of implementation of SW-PBS is 1.0 to 4.0, there were several common practices that emerged. Additionally, noticeable changes by administrators in respect to the building and district climate and the hard data of decreased office builds further commitment in schools and districts to continue to deepen implementation of the initiative. Through the

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interviews schools and districts echoed the need to improve the implementation of tier 2 and 3 SW-PBS.

3.18.3 Best Practices

- Common language and expectations for students and adults.
- Creating a building climate that is committed to implementing the initiative with fidelity.
- Consistency in adult actions of communicating high expectations and in holding students accountable.
- The collecting of pertinent effect data related to the initiative.
- Quality professional development provided to SW-PBS Leadership Teams

3.19 Technology Centers That Work (TCTW)

3.19.1 Initiative Description

The Technology Centers That Work (TCTW) is a version of High Schools That Work (HSTW) which has been tailored to better meet the unique need of shared-time career/technical centers. Both TCTW and HSTW share the same ten key practices: High expectations; Program of study, Academic studies, Career/technical studies, Work-based learning, Teachers working together, Students actively engaged, Guidance, Extra help, and Culture of continuous improvement.

3.19.2 Range of Implementation

Two districts and three schools were selected to participate in the Implementation Audit™ for Technology Centers that Work. The three schools are Career and Technical Centers, which are shared-sites. Students from sending schools, including the district the center is located, attend the Career and Technical Center for either hourly electives or for a three hour block in a selected vocation. The initial implementation dates of the Technology Centers that Work are 2007, 2008 and 2009. The range of implementation is 1.5 to 2.0.

A top priority of Technology Centers that Work is increasing the academic rigor of Academic Core courses as well as career/technical courses. While students are at their respective Career and Technical Center they are able to earn English and math credits, as the content standards are embedded into their career and technical courses. At all three schools were able to offer this option. In 2009 -10, 166 students will earn English and math credits at one of the Centers. For all three TCTW programs having at least eighty percent of the students enrolled in the Academic Core was not attainable mainly as a result of needing a fourth year of math. A fourth year of math is recommended by the Missouri Department of Education, but at this time is in not required for graduation. A key characteristic of TCTW is hiring literacy and numeracy coaches support career and technical teachers embed literacy and numeracy into their respective curriculums. One school has both and English and math teacher on staff. A second school used TCTW funds to hire a literacy and numeracy coach and the final school does not employ literacy and numeracy coaches or teachers. All three career and technical centers offer programs in

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which students can obtain college credit. At one Center, depending upon the program, students can earn between 3 and 27 college credits towards. Another Center offers college credit in three programs: agriculture, business, and marketing.

Technology Centers that Work share several common instructional practices with High Schools that work including establishing high expectations for students, posting daily literacy and/or numeracy bell ringers, allowing students to resubmit work and using rubrics to provide feedback on projects to name a few. Communicating high expectations to students is an area of strength for all schools along with the ability to provide students a variety of means to engage in work-based learning experiences. At one Center the students developed a recruitment video that is posted on the schools website highlighting the advantages of attending the Career and Technical Center. With the support of local businesses students were able to job shadow, obtain internships, and engage in mock interviews in their program of study. At one Center, students job shadow during the first two weeks of the start of their program. This allows students to experience jobs associated with their program of study and take a greater interest in their program of study at the Center. As embedding literacy and numeracy is a focus of TCTW, one school requires programs to have students read six books, three each semester, related to their program of study. The use of rubrics is increasing and the literacy and numeracy teachers and coaches are assisting teachers in develop course specific rubrics at two of the Centers.

In regards to professional development for the Technology Centers that Work a benefit is that staff are typically small. The schools involved in this study had between 15 and 24 faculty members, so when professional development was offered all teachers were able to participate. Each of the Centers has taken a different approach to professional development. At one Center the English and math teachers provide mini-professional development sessions on pertinent topics such as bell ringers or pre and post formative assessments. The second Center engages the services of their Regional Professional Development Center. This staff has received professional development in: MAX Teaching (Motivation, Activation and Extension), Cooperative Learning, Whole Brain Learning and PLCs. The final Center has had staff attend Southern Regional Education Board sponsored workshops such as "The Power of I" and then the staff returns to share their findings and spearhead the efforts to engage all staff in the professional development.

There are certain leadership practices that support the implementation of Technology Centers that Work. One practice is providing time for teacher collaboration. Two of the three Centers were able to arrange for Professional Learning Communities to meet. At one Center, meeting time was monthly and at the other it was daily for an hour. The Technology Centers that Work initiative wants Centers to develop policies on homework, literacy and numeracy. At this time none of the three Centers have embarked on developing these policies. Having a building-wide advisement program to support students in attaining higher academic expectations is another characteristic of a Technology Center that Works. One school presently has a twenty minute daily advisement but recognizes it needs to refine the expectations so it just does not become twenty additional minutes of instruction for some teachers. The other two Centers do not have an advisement program. However, the district that one of the Centers is located will be instituting and advisement program at the high school and some teachers from the Center may be involved with that.

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Technology Centers that Work was created as an offshoot from High Schools that Work to better support the needs of Career and Technical Centers. Each of the Centers is engaging is some promising practices and they each recognized work still needed to be done to improve the level of implementation of Technology Centers that Work at their respective sites.

3.19.3 Best Practices

- Clearly communicating higher expectations to students.
- Engaging the services of literacy and numeracy coaches or teachers to support embedding literacy and numeracy into each Career and Technical Center program.
- Embedding high school English and math credits into career and technical courses without having a stand-alone class.
- Requiring technical readings of students in their program of study.
- Incorporating real-world learning experiences and projects.
- Posting daily literacy and numeracy bellringers.
- Engaging all staff in professional development to establish a common language.
- Providing time for teacher collaboration in Professional Learning Communities.

3.19.4 Student Achievement Data for the Technology Centers That Work School sites was not provided to us. Therefore, we cannot make an inference on the relationship between the level of implementation and student achievement.

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4.0 Findings and Recommendations

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Appendix A: Degree of Implementation and Percent Proficiency Change from 2008 to 2009 by Grade Level in Communication Arts, Math and Science or Average Performance Index in English, Math and Science

A. 1 21st Century Community Learning Centers (21st CCLC)

A.1.1 21st Century Community Learning Centers Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009

A.1.2 21st Century Community Learning Centers Degree of Implementation and Math Percent Change by Grade Level in Proficiency from 2008 to 2009

A.1.3 21st Century Community Learning Centers Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009

A.2 Administrator Mentoring Program (AMP)

A.2.31 Administrator Mentoring Program Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009

A.2.32 Administrator Mentoring Program Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009

A.2.33 Administrator Mentoring Program Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009

A.3 Career and Technical Student Organizations (CTSO's)

A.3.1 Career and Technical Student Organizations Degree of Implementation and 2009 Average Missouri Performance Index in English

A.3.2 Career and Technical Student Organizations Degree of Implementation and 2009 Average Missouri Performance Index in Math

A.3.3 Career and Technical Student Organizations Degree of Implementation and 2009 Average Missouri Performance Index in Science

A. 4 Enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS)

A.4.1 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009

A.4.2 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009

A.4.3 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009

A.5 High Schools That Work (HSTW)

A.5.1 High Schools That Work Degree of Implementation and 2009 Average Missouri Performance Index in English

A.5.2 High Schools That Work Degree of Implementation and 2009 Average Missouri Performance Index in Math

A.5.3 High Schools That Work Degree of Implementation and 2009 Average Missouri Performance Index in Science

A.6 Making Middle Grades Work (MMGW)

A.6.1 Making Middle Grades Work Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009

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A.6.2 Making Middle Grades Work Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009
A.6.3 Making Middle Grades Work Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009
A. 7 Math-Science Partnership (MSP)
A.7.1 Math-Science Partnership Degree of Implementation and 2009 Missouri Performance Index in English
A.7.2 Math-Science Partnership Degree of Implementation and 2009 Average Missouri Performance Index in Math
A.7.3 Math-Science Partnership Degree of Implementation and 2009 Average Missouri Performance Index in Science
A.8 Missouri Integrated Model (MIM)
A8.1 Missouri Integrated Model and Degree of Implementation
A.9 Missouri Option Program (MOP)
A.9.1 Missouri Option Program Degree of Implementation and 2009 Missouri Performance Index in English
A.9.2 Missouri Option Program and 2009 Average Missouri Performance Index in Math
A.9.3 Missouri Option Program Degree of Implementation and 2009 Average Missouri Performance Index in Science
A.10 Missouri Preschool Program (MPP)
A. 11 Missouri Reading Initiative (MRI)
A.11.1. Missouri Reading Initiative Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009
A.11.2 Missouri Reading Initiative Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009
A.11.3 Missouri Reading Initiative Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009
A.12 Missouri Virtual Instructional Program (MOVIP)
A.12.31 Missouri Virtual Instructional Program Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009
A.12.32 Missouri Virtual Instructional Program Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009
A.12.33 Missouri Virtual Instructional Program Degree of Implementation and Science Percent Change in Proficiency from by Grade Level 2008 to 2009
A.13 Professional Learning Communities (PLCs)
A.13.1 Professional Learning Communities Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009
A.13.2 Professional Learning Communities Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009
A.13.3 Professional Learning Communities Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009
A. 14 Project Lead the Way (PLTW)
A.14.1 Project Lead the Way Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009
A.14.2 Project Lead the Way Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009

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A.14.3 Project Lead the Way Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009
A.15 Response to Intervention (RTI)
A.15.1 Response to Intervention Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009
A.15.2 Response to Intervention Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009
A.15.3 Response to Intervention Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009
A.16 Satellite Academy Program (SAP)
A.16.1 Satellite Academy Program Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009
A.16.2 Satellite Academy Program Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009
A.16.3 Satellite Academy Program Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009
A. 17 School Administrator Manager (SAM)
A.18 School-wide Positive Behavior System (SW-PBS)
A.18.1 School-wide Positive Behavior System Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009
A.18.2 School-wide Positive Behavior System Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009
A.18.3 School-wide Positive Behavior System Degree of Implementation and Science Percent Change in Proficiency from 2008 to 2009
A.19 Technology Centers that Work (TCTW)

Appendix B: Degree of Implementation and Overall Percent Proficiency Change from 2008 to 2009 in Communication Arts, Math and Science or Overall Average Performance Index in English, Math and Overall Science

B. 1 21st Century Community Learning Centers (21st CCLC)
B.1.1 21st Century Community Learning Centers Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009
B.1.2 21st Century Community Learning Centers Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009
B.1.3 21st Century Community Learning Centers Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009
B.2 Administrator Mentoring Program (AMP)
B.2.31 Administrator Mentoring Program Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009
B.2.32 Administrator Mentoring Program Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009
B.2.33 Administrator Mentoring Program Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009
B.3 Career and Technical Student Organizations (CTSO's)
B.3.1 Career and Technical Student Organizations Degree of Implementation and Overall 2009 Average Missouri Performance Index in English

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B.3.2 Career and Technical Student Organizations Degree of Implementation and Overall 2009 Average Missouri Performance Index in Math
B.3.3 Career and Technical Student Organizations Degree of Implementation and Overall 2009 Average Missouri Performance Index in Science
B.3.1 Career and Technical Student Organizations Degree of Implementation and Overall 2009 Average Missouri Performance Index in English
B.3.2 Career and Technical Student Organizations Degree of Implementation and Overall 2009 Average Missouri Performance Index in Math
B.3.3 Career and Technical Student Organizations Degree of Implementation and Overall 2009 Average Missouri Performance Index in Science
B. 4 Enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS)
B.4.1 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009
B.4.2 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009
B.4.3 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009
B.5 High Schools That Work (HSTW)
B.5.1 High Schools That Work Degree of Implementation and Overall 2009 Average Missouri Performance Index in English
B.5.2 High Schools That Work Degree of Implementation and Overall 2009 Average Missouri Performance Index in Math
B.5.3 High Schools That Work Degree of Implementation and Overall 2009 Average Missouri Performance Index in Science
B.6 Making Middle Grades Work (MMGW)
B.6.1 Making Middle Grades Work Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009
B.6.2 Making Middle Grades Work Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009
B.6.3 Making Middle Grades Work Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009
B. 7 Math-Science Partnership (MSP)
B.7.1 Math-Science Partnership Degree of Implementation and Overall 2009 Missouri Performance Index in English
B.7.2 Math-Science Partnership Degree of Implementation and Overall 2009 Average Missouri Performance Index in Math
B.7.3 Math-Science Partnership Degree of Implementation and Overall 2009 Average Missouri Performance Index in Science
B.8 Missouri Integrated Model (MIM)
B8.1 Missouri Integrated Model and Overall Degree of Implementation
B.9 Missouri Option Program (MOP)
B.9.1 Missouri Option Program Degree of Implementation and Overall 2009 Missouri Performance Index in English
B.9.2 Missouri Option Program and Overall 2009 Average Missouri Performance Index in Math

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B.9.3 Missouri Option Program Degree of Implementation and Overall 2009 Average Missouri Performance Index in Science
B.10 Missouri Preschool Program (MPP)
B.10.1 Missouri Preschool Program Degree of Implementation and Overall Percent Change on the Preschool Exit Observational Assessment
B. 11 Missouri Reading Initiative (MRI)
B.11.1 Missouri Reading Initiative Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009
B.11.2 Missouri Reading Initiative Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009
B.11.3 Missouri Reading Initiative Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009
B.12 Missouri Virtual Instructional Program (MOVIP)
B.12.31 Missouri Virtual Instructional Program Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009
B.12.32 Missouri Virtual Instructional Program Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009
B.12.33 Missouri Virtual Instructional Program Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009
B.13 Professional Learning Communities (PLCs)
B.13.1 Professional Learning Communities Degree of Implementation andLevel in Communication Arts Percent Change in Proficiency by Grade from 2008 to 2009
B.13.2 Professional Learning Communities Degree of Implementation andLevel in Math Percent Change in Proficiency by Grade from 2008 to 2009
B.13.3 Professional Learning Communities Degree of Implementation and Level in Science Percent Change in Proficiency by Grade from 2008 to 2009
B.13.4 Professional Learning Communities Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009
B.13.5 Professional Learning Communities Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009
B.13.6 Professional Learning Communities Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009
B. 14 Project Lead the Way (PLTW)
B.14.1 Project Lead the Way Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009
B.14.2 Project Lead the Way Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009
B.14.3 Project Lead the Way Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009
B.15 Response to Intervention (RTI)
B.15.1 Response to Intervention Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009
B.15.2 Response to Intervention Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009
B.15.3 Response to Intervention Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009

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B.16 Satellite Academy Program (SAP)
B.16.1 Satellite Academy Program Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009
B.16.2 Satellite Academy Program Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009
B.16.3 Satellite Academy Program Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009
B. 17 School Administrator Manager (SAM)
B.17.1 School Administrator Manager Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009
B.17.2 School Administrator Manager Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009
B.17.3 School Administrator Manager Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009
B.18 School-wide Positive Behavior System (SW-PBS)
B.18.1 School-wide Positive Behavior System Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009
B.18.2 School-wide Positive Behavior System Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009
B.18.3 School-wide Positive Behavior System Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009
B.8.4 School-wide Positive Behavior System Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009
B.18.5 School-wide Positive Behavior System Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009
B.18.6 School-wide Positive Behavior System Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009
B.19 Technology Centers that Work (TCTW)
B.19.1 Technology Centers that Work Degree of Implementation and Overall 2009 Missouri Performance Index in English
B.19.2 Technology Centers that Work Degree of Implementation and Overall 2009 Average Missouri Performance Index in Math
B.19.3 Technology Centers that Work Degree of Implementation and Overall 2009 Average Missouri Performance Index in Science

Appendix C: Summary of Online Survey Results for Selected Schools and Districts
C.1. Participation Response Summary
C.1.1 Participation Graph
C.1.2 Stratification Process
C.1.3 Level of Agreement
C.2 Century of Learning Survey Results
C.2.1 Question 1
C.2.2 Question 2
C.2.3 Question 3
C.2.4 Question 4

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C.2.5 Question 5
C.2.6 Question 6
C.2.7 Question 7
C.3 Administrator Mentoring Program (AMP) Survey Results
C.3.1 Question 1
C.3.2 Question 2
C.3.3 Question 3
C.3.4 Question 4
C.3.5 Question 5
C.3.6 Question 6
C.3.7 Question 7
C.4 Career and Technical Student Organizations Survey Results
C.4.1 Question 1
C.4.2 Question 2
C.4.3 Question 3
C.4.4 Question 4
C.4.5 Question 5
C.4.6 Question 6
C.4.7 Question 7
C. 5 Enhancing Missouri's Instructional Networked Teaching Strategies Survey Results
C.5.1 Question 1
C.5.2 Question 2
C.5.3 Question 3
C.5.4 Question 4
C.5.5 Question 5
C.5.6 Question 6
C.5.7 Question 7
C.5.8 Question 8
C.5.9 Question 9
C.5.10 Question 10
C.5.11 Question 11
C.6 High Schools That Work Survey Results
C.6.1 Question 1
C.6.2 Question 2
C.6.3 Question 3
C.6.4 Question 4
C.6.5 Question 5
C.6.6 Question 6
C.6.7 Question 7
C.6.8 Question 8
C.6.9 Question 9
C.6.10 Question 10
C.6.11 Question 11
C.6.12 Question 12
C.6.13 Question 13
C.7 Making Middle Grades Work Survey Results

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**No survey data available

C.8 Math-Science Partnership Survey Results

**No survey data available

C.9 Missouri Integrated Model Survey Results

C.9.1 Question 1

C.9.2 Question 2

C.9.3 Question 3

C.9.4 Question 4

C.9.5 Question 5

C.9.6 Question 6

C.9.7 Question 7

C.9.8 Question 8

C. 10 Missouri Option Program Survey Results

C.10.1 Question 1

C.10.2 Question 2

C.10.3 Question 3

C.10.4 Question 4

C.10.5 Question 5

C.10.6 Question 6

C.10.7 Question 7

C.10.8 Question 8

C.10.9 Question 9

C.10.10 Question 10

C.10.11 Question 11

C. 11 Missouri Preschool Program Survey Results

C.11.1 Question 1

C.11.2 Question 2

C.11.3 Question 3

C.11.4 Question 4

C.11.5 Question 5

C.11.6 Question 6

C.11.7 Question 7

C.11.8 Question 8

C.11.9 Question 9

C.11.10 Question 10

C.11.11 Question 11

C.11.12 Question 12

C. 12 Missouri Reading Initiative Survey Results

C.12.1 Question 1

C.12.2 Question 2

C.12.3 Question 3

C.12.4 Question 4

C.12.5 Question 5

C.12.6 Question 6

C.12.7 Question 7

C.12.8 Question 8

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C.12.9 Question 9
C.12.10 Question 10
C.12.11 Question 11
C.12.12 Question 12
C.12.13 Question 13
C.12.14 Question 14
C.12.15 Question 15
C. 13 Missouri Virtual Instructional Program Survey Results
**No survey data available
C. 14 Professional Learning Communities Survey Results
C.14.1 Question 1
C.14.2 Question 2
C.14.3 Question 3
C.14.4 Question 4
C.14.5 Question 5
C.14.6 Question 6
C.14.7 Question 7
C.14.8 Question 8
C.15 Project Lead the Way Survey Results
C.15.1 Question 1
C.15.2 Question 2
C.15.3 Question 3
C.15.4 Question 4
C.15.5 Question 5
C.15.6 Question 6
C.15.7 Question 7
C.15.8 Question 8
C.15.9 Question 9
C.15.10 Question 10
C.16 Response to Intervention Survey Results
C.16.1 Question 1
C.16.2 Question 2
C.16.3 Question 3
C.16.4 Question 4
C.16.5 Question 5
C.16.6 Question 6
C.16.7 Question 7
C.16.8 Question 8
C. 17 Satellite Academy Program Survey Results
**No survey data available
C. 18 School Administrator Manager Survey Results
**No survey data available
C. 19 School Wide Positive Behavior Support Survey Results
C.19.1 Question 1
C.19.2 Question 2
C.19.3 Question 3

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C.19.4 Question 4
C.19.5 Question 5
C. 20 Technology Centers That Work Survey Results
C.20.1 Question 1
C.20.2 Question 2
C.20.3 Question 3
C.20.4 Question 4
C.20.5 Question 5
C.20.6 Question 6
C.20.7 Question 7
C.20.8 Question 8
C.20.9 Question 9
C.20.10 Question 10
C.20.11 Question 11
C.20.12 Question 12

Appendix D: Summary of Online Survey Results for Statewide Initiatives
D.1. Participation Response Summary
D.1.1 Participation Graph
D.2 Career and Technical Student Organizations Survey Results
D.2.1 Question 1
D.2.2 Question 2
D.2.3 Question 3
D.2.4 Question 4
D.2.5 Question 5
D.2.6 Question 6
D.2.7 Question 7
D.2.8 Question 8
D.3 Professional Learning Communities
D.3.1 Question 1
D.3.2 Question 2
D.3.3 Question 3
D.3.4 Question 4
D.3.5 Question 5
D.3.6 Question 6
D.3.7 Question 7
D.3.8 Question 8
D.3.9 Question 9
D.4 School Wide Positive Behavior Support
D.4.1 Question 1
D.4.2 Question 2
D.4.3 Question 3
D.4.4 Question 4
D.4.5 Question 5
D.4.6 Question 6

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Appendix E: Initiative Specific Rubrics

E.1 21st Century Community Learning Centers (21st CCLC)
E.2 Administrator Mentoring Program (AMP)
E.3 Career and Technical Student Organizations (CTSOs)
E.4 Enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS)
E.5 High Schools That Work (HSTW)
E.6 Making Middle Grades Work (MMGW)
E.7 Math-Science Partnership (MSP)
E.8 Missouri Integrated Model (MIM)
E.9 Missouri Option Program (MOP)
E.10 Missouri Preschool Program (MPP)
E.11 Missouri Reading Initiative (MRI)
E.12 Missouri Virtual Instructional Program (MOVIP)
E.13 Professional Learning Communities (PLCs)
E.14 Project Lead the Way (PLTW)
E.15 Response to Intervention (RTI)
E.16 Satellite Academy Program (SAP)
E.17 School Administrator Manager (SAM)
E.18 School-wide Positive Behavior System (SW-PBS)
E.19 Technology Centers that Work (TCTW)

Appendix F: Initiative Summaries

F.1 21st Century Community Learning Centers (21st CCLC)
F.2 Administrator Mentoring Program (AMP)
F.3 Career and Technical Student Organizations (CTSOs)
F.4 Enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS)
F.5 High Schools That Work (HSTW)
F.6 Making Middle Grades Work (MMGW)
F.7 Math-Science Partnership (MSP)
F.8 Missouri Integrated Model (MIM)
F.9 Missouri Option Program (MOP)
F.10 Missouri Preschool Program (MPP)
F.11 Missouri Reading Initiative (MRI)
F.12 Missouri Virtual Instructional Program (MOVIP)
F.13 Professional Learning Communities (PLCs)
F.14 Project Lead the Way (PLTW)
F.15 Response to Intervention (RTI)
F.16 Satellite Academy Program (SAP)
F.17 School Administrator Manager (SAM)
F.18 School-wide Positive Behavior System (SW-PBS)
F.19 Technology Centers that Work (TCTW)

Appendix G: Consultant Biographies

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Appendix A

Missouri Department of Education Implementation Audit™

Implementation Tables

Appendix A

Appendix A: Degree of implementation and percent proficiency change from 2008 to 2009 by grade level in communication arts, math and science or average performance index in English, math and science. Gains are calculated as a percent of change over the previous year. Results used were from test scores of Spring 2008 and Spring 2009. Sample size (N) is the amount of schools that responded.

A.1 21st Century Community Learning Centers (21st CCLC)
INCLUDES Grades 3-8 and 9-12, 2 Elementary Schools and 2 Districts N=4

21st Century Community Learning Centers Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Medium	17.97%	44.13%	37.93%	37.70%	-13.69%	83.24%	34.55%
High	-16.30%	82.61%	14.55%	-39.42%	-4.20%	15.56%	8.8%

Table A.1.1 21st Century Community Learning Centers Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009

21st Century Community Learning Centers Degree of Implementation and Math Percent Change in Proficiency by Grade Level From 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Medium	68.52%	60.53%	49.43%	-36.44%	1.87%	26.86%	28.46%
High	2.03%	-8.70%	-33.60%	-25.96%	-20.17%	24.44%	-10.36%

Table A.1.2 21st Century Community Learning Centers Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009

21st Century Community Learning Centers Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Medium	N/A	N/A	26.08%	N/A	N/A	52.54%	39.1%
High	N/A	N/A	-4.55%	N/A	N/A	-3.70%	-4.12%

Table A.1.3 21st Century Community Learning Centers Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009

21st Century Community Learning Centers Degree of Implementation and 2009 Average Missouri Performance Index						
Degree of Implementation	MAP EOC English II 2009	Status Level EOC English II 2009	MAP EOC Algebra 1 2009	Status Level EOC Algebra 1 2009	MAP EOC Biology 1 2009	Status Level EOC Biology 1 2009
Low	N/A	N/A	N/A	N/A	N/A	N/A
Medium	783.3	Average	780	High 2	727.7	Below Average
High	810.5	High 1	794.4	High 1	766.7	High 2

Table A.1.4 21st Century Community Learning Centers Degree of Implementation and 2009 Average Missouri Performance Index

A.2 Administrator Mentoring Program (AMP)
INCLUDES Grades 3-8 and 9-12, N=6

Administrator Mentoring Program Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	20.35%	12.22%	18.92%	-4.28%	-4.44%	8.33%	8.52%
Medium	19.68%	18.75%	14.25%	-12.31%	2.56%	10.48%	4.95%
High	17.49%	-23.89%	-10.05%	29.41%	131.78%	-52.63%	12.89%

Table A.2.1 Administrator Mentoring Program Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009

Administrator Mentoring Program Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	9.07%	-37.91%	-8.64%	-15.90%	26.59%	17.29%	-1.58%
Medium	41.74%	9.57%	-3.23%	-14.74%	46.67%	28.89%	17.67%
High	-9.35%	-19.23%	-5.56%	68.24%	117.67%	-64.71%	7.98%

Table A.2.2 Administrator Mentoring Program Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009

Administrator Mentoring Program Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	N/A	N/A	-16.22%	N/A	N/A	15.92%	-0.15%
Medium	N/A	N/A	-15.02%	N/A	N/A	-7.94%	-17.54%
High	N/A	N/A	21.43%	N/A	N/A	-53.33%	-15.95%

Table A.2.3 Administrator Mentoring Program Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009

Administrator Mentoring Program Degree of Implementation and 2009 Average Missouri Performance Index						
Degree of Implementation	MAP EOC English II 2009	Status Level EOC English II 2009	MAP EOC Algebra 1 2009	Status Level EOC Algebra 1 2009	MAP EOC Biology 1 2009	Status Level EOC Biology 1 2009
Low	800	High 2	786	High 2	675	Floor
Medium	N/A	N/A	N/A	N/A	N/A	N/A
High	787.5	Average	717.1	Below Average	740	Average

Table A.2.4 Administrator Mentoring Program Degree of Implementation and 2009 Average Missouri Performance Index

A.3 Career and Technical Student Organizations (CTSO)
INCLUDES Grades 9-12, High Schools and 3 Districts N=36

Career and Technical Student Organizations Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009						
Degree of Implementation	MAP EOC English II 2009	Status Level EOC English II 2009	MAP EOC Algebra 1 2009	Status Level EOC Algebra 1 2009	MAP EOC Biology 1 2009	Status Level EOC Biology 1 2009
Low	760.5	Below Average	729.3	Below Average	721.5	Below Average
Medium	795.2	High	774.7	High 2	766.8	High 2
High	786.6	Average	762.4	Average	755.0	Average

Table A.3.1 Career and Technical Student Organizations Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009

A.4 Enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS)
INCLUDES Grades 3-8 and 9-12, N=20

Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	76.67%	-14.92%	8.43%	-5.88%	-10.74%	20.79%	5.71%
Medium	12.65%	23.04%	-0.48%	-7.86%	0.57%	24.31%	7.31%
High	16.18%	-19.33%	10.45%	7.38%	1.13%	-0.89%	2.47%

Table A.4.1 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009

Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	33.52%	-1.51%	-21.13%	276.47%	0.74%	115.32%	32.52%
Medium	18.47%	11.27%	-4.98%	-2.30%	-7.08%	10.74%	3.93%
High	27.83%	1.61%	-9.09%	-0.69%	0.46%	12.73%	5.49%

Table A.4.2 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009

Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	N/A	N/A	-14.17%	N/A	N/A	94.43%	30.86%
Medium	N/A	N/A	-22.47%	N/A	N/A	42.47%	-14.17%
High	N/A	N/A	-18.41%	N/A	N/A	-2.65%	-15.26%

Table A.4.3 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009

Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and 2009 Average Missouri Performance Index						
Degree of Implementation	MAP EOC English II 2009	Status Level EOC English II 2009	MAP EOC Algebra 1 2009	Status Level EOC Algebra 1 2009	MAP EOC Biology 1 2009	Status Level EOC Biology 1 2009
Low	771.7	Below Average	728.0	Below Average	741.4	Average
Medium	799.5	High 2	751.3	Average	772.3	High 2
High	N/A	N/A	N/A	N/A	N/A	N/A

Table A.4.4 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and 2009 Average Missouri Performance Index

A.5 High Schools that Work (HSTW)
INCLUDES Grades 9-12, N=8

High Schools that Work Degree of Implementation and 2009 Average Missouri Performance Index						
Degree of Implementation	MAP EOC English II 2009	Status Level EOC English II 2009	MAP EOC Algebra 1 2009	Status Level EOC Algebra 1 2009	MAP EOC Biology 1 2009	Status Level EOC Biology 1 2009
Low	794.7	High 2	726.5	Below Average	775.1	High 2
Medium	798.8	High 1	766.1	High 2	775.7	High 2
High	N/A	N/A	N/A	N/A	N/A	N/A

Table A.5.1 High Schools that Work Degree of Implementation and 2009 Average Missouri Performance Index

A.6 Making Middle Grades Work (MMGW)

Making Middle Grades Work is a program similar to High Schools that Work; middle schools can implement the initiative if their high school implements High Schools that Work. Only one school and one district participated in the Implementation Audit™ out of the four that were selected. For the one school and one district selected, they both commenced implementation during the 2009-10 school year. This initiative was not in place during the 2007-08 school year in these two schools/districts and thus does not have two years of student achievement data to demonstrate a relationship between the level of implementation and academic achievement.

A.7 Math-Science Partnership (MSP)

For the Math-Science Partnership initiative, six schools and two districts were selected to be interviewed for the implementation audit. Only one district responded. This small sample size does not show enough data to explain a variance in the relationship of the level of implementation to student achievement. Due to the small response rate, the numeric data could not be charted.

A.8 Missouri Integrated Model

The Missouri Integrated Model is a federally funded program. In June of 2008, 14 elementary schools were selected to participate in this pilot initiative starting in September of 2008. This initiative was not in place during the 2007-08 school year and thus does not have two years of student achievement data to demonstrate a relationship between the level of implementation and academic achievement. The implementation of the Missouri Integrated Model is a systematic process and each school has an implementation facilitator to support implementation of the model. The 2008-09 school year was a preparation year for all schools to gather and analyze data, lay the foundation, and develop an action plan to commence implementation in 2009-10. Some action steps were taken during the 2008-09 school year. Accordingly, charts exhibiting the overall percent change in proficiency cannot be depicted.

A.9 Missouri Option Program (MOP)
INCLUDES Grades 9-12, N=23

Missouri Option Program Degree of Implementation and 2009 Average Missouri Performance Index						
Degree of Implementation	MAP EOC English II 2009	Status Level EOC English II 2009	MAP EOC Algebra 1 2009	Status Level EOC Algebra 1 2009	MAP EOC Biology 1 2009	Status Level EOC Biology 1 2009
Low	781.2	Average	741.5	Average	751.9	Average
Medium	778.3	Average	744.6	Average	742.6	Average
High	779.8	Average	743.0	Average	747.3	Average

Table A.9.1 Missouri Option Program Degree of Implementation and 2009 Missouri Performance Index

A.10 Missouri Preschool Program (MPP)

The Missouri Preschool Program showed high levels of implementation with a range of 3.2–4.0. The 2005–06 scores showed increases over the 2004–05 year, especially for the Conventional Knowledge, Symbolic Development, and Communication subscales. The scores stayed level in 2006–07 over the previous year, with only some very slight decreases. The 2007–08 scores showed slight decreases over the previous year for each of the subscales (except for Conventional Knowledge, which cannot be compared across the four years).

The 2008–09 scores showed slight increases over the previous year for the Communication, Mathematical/Physical Knowledge and Learning to Learn subscales. The Conventional Knowledge, Symbolic Development, and Working with Others subscales remained. The test scores are state wide and we were unable to obtain test scores for the existing assessment data by school level. Thus, charts depicting the overall percent change in proficiency cannot be generated using the rubrics on the school level.

A.11 Missouri Reading Initiative (MRI)
INCLUDES Grades 3-8, N=4

Missouri Reading Initiative Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Medium	N/A	-20.34%	34.69%	-17.07%	21.15%	-35.09%	-3.33%
High	-10.13%	4.47%	-1.92%	4.86%	7.67%	-0.91%	-1.20%

Table A.11.1 Missouri Reading Initiative Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009

Missouri Reading Initiative Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Medium	N/A	5.32%	10.92%	-0.70%	50.00%	-40.63%	.89%
High	-11.08%	19.19%	-4.88%	1.81%	4.15%	2.35%	1.21%

Table A.11.2 Missouri Reading Initiative Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009

Missouri Reading Initiative Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Medium	N/A	N/A	-31.75%	N/A	N/A	-28.42%	-30.08%
High	N/A	N/A	-3.50%	N/A	N/A	-2.72%	-5.52%

Table A.11.3 Missouri Reading Initiative Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009

A.12 Missouri Virtual Instructional Program (MOVIP)

For the Missouri Virtual Instructional Program, four districts were selected to be interviewed for the implementation audit. Only two districts responded. This small sample size does not show enough data to explain a variance in the relationship of the level of implementation to student achievement. Due to the small response rate, the numeric data could not be charted.

A.13 Professional Learning Communities (PLCs)
INCLUDES Grades 3-8 and 9-12, N=33

Professional Learning Communities Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	21.35%	-33.28%	-9.53%	-6.81%	-8.32%	44.37%	6.59%
Medium	61.01%	18.29%	-3.54%	11.61%	13.32%	-4.04%	13.28%
High	21.39%	9.99%	12.32%	50.37%	6.82%	-14.12%	14.68%

Table A.13.1 Professional Learning Communities Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009

Professional Learning Communities Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	53.95%	-36.3%	-22.48%	-17.93%	-5.67%	13.03%	-.24%
Medium	62.91%	-13.67%	5.51%	31.91%	12.59%	3.21%	16.28%
High	26.92%	4.90%	64.60%	143.24%	41.11%	34.84%	44.27%

Table A.13.2 Professional Learning Communities Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009

Professional Learning Communities Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	N/A	N/A	-12.32%	N/A	N/A	26.95%	13.39%
Medium	N/A	N/A	-7.02%	N/A	N/A	-1.94%	-6.61%
High	N/A	N/A	-1.18%	N/A	N/A	-5.58%	.98%

Table A.13.3 Professional Learning Communities Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009

Professional Learning Communities Degree of Implementation and 2009 Average Missouri Performance Index						
Degree of Implementation	MAP EOC English II 2009	Status Level EOC English II 2009	MAP EOC Algebra 1 2009	Status Level EOC Algebra 1 2009	MAP EOC Biology 1 2009	Status Level EOC Biology 1 2009
Low	784.1	Average	768.1	High 2	748.4	Average
Medium	767.8	Below Average	735.3	Below Average	739.7	Average
High	782.2	Average	760.5	Average	762.5	High 2

Table A.13.4 Professional Learning Communities Degree of Implementation and 2009 Average Missouri Performance Index

A.14 Project Lead the Way (PLTW)
INCLUDES Grades 6-8 and 9-12, N=10; Middle Schools=2, High Schools=8

Project Lead the Way Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009				
Degree of Implementation	Grade 6	Grade 7	Grade 8	Combined Grades
Low	10.08%	10.92%	1.65%	7.55%
Medium	N/A	N/A	N/A	N/A
High	-6.00%	-7.50%	5.84%	-2.55%

Table A.14.1 Project Lead the Way Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009

Project Lead the Way Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009				
Degree of Implementation	Grade 6	Grade 7	Grade 8	Combined Grades
Low	12.55%	5.14%	12.97%	10.22%
Medium	N/A	N/A	N/A	N/A
High	-8.62%	-4.27%	6.92%	-1.99%

Table A.14.2 Project Lead the Way Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009

Project Lead the Way Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009				
Degree of Implementation	Grade 6	Grade 7	Grade 8	Combined Grades
Low	N/A	N/A	11.33%	11.33%
Medium	N/A	N/A	N/A	N/A
High	N/A	N/A	26.49%	26.49%

Table A.14.3 Project Lead the Way Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009

Project Lead the Way Degree of Implementation and 2009 Average Missouri Performance Index						
Degree of Implementation	MAP EOC English II 2009	Status Level EOC English II 2009	MAP EOC Algebra 1 2009	Status Level EOC Algebra 1 2009	MAP EOC Biology 1 2009	Status Level EOC Biology 1 2009
Low	N/A	N/A	N/A	N/A	N/A	N/A
Medium	782.0	Average	745.0	Average	753.8	Average
High	772.1	Below Average	709.7	Floor	735.3	Below Average

Table A.14.4 Project Lead the Way Degree of Implementation and 2009 Average Missouri Performance Index

A.15 Response to Intervention (RTI)

INCLUDES Grades 3-5, N=3, Elementary=1, District=2

Response to Intervention Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009				
Degree of Implementation	Grade 3	Grade 4	Grade 5	Combined Grades
Low	N/A	N/A	N/A	N/A
Medium	-7.52%	15.84%	2.50%	1.44%
High	N/A	N/A	N/A	N/A

Table A.15.1 Response to Intervention Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009

Response to Intervention Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009				
Degree of Implementation	Grade 3	Grade 4	Grade 5	Combined Grades
Low	N/A	N/A	N/A	N/A
Medium	-0.80%	-2.29%	12.46%	3.12%
High	N/A	N/A	N/A	N/A

Table A.15.2 Response to Intervention Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009

Response to Intervention Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009				
Degree of Implementation	Grade 3	Grade 4	Grade 5	Combined Grades
Low	N/A	N/A	N/A	N/A
Medium	N/A	N/A	-0.70%	-0.70%
High	N/A	N/A	N/A	N/A

Table A.15.3 Response to Intervention Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009

A.16 Satellite Academy Program (SAP)

For the Satellite Academy Program, three schools and one district were selected to be interviewed for the implementation audit. Only one school responded. This small sample size does not show enough data to explain a variance in the relationship of the level of implementation to student achievement. Due to the small response rate, the numeric data could not be charted.

A.17 School Administrator Manager (SAM)

The School Administration Manager (SAM) initiative commenced in two Missouri districts in October 2009. The Wallace Foundation supported a project in Louisville, Kentucky in 2002 to study the use of principals' time and conditions that prevent a principal from focusing on teaching and learning. This resulted in the creation of a system to track principal time. As a result of the Louisville success at three pilot schools, with principals spending 70% or more of their time on instruction, the Wallace Foundation now supports the replication of SAM in nine states, including Missouri. This initiative was not in place during the 2007–08 school year and thus does not have two years of student achievement data to demonstrate a relationship between the level of implementation and student achievement. Therefore, charts illustrating the overall percent change in proficiency cannot be depicted.

A.18 School-Wide Positive Behavior Support (SWPBS) INCLUDES Grades 3-8 and 9-12, N=17

School-Wide Positive Behavior Support Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	7.53%	-1.13%	-13.36%	-12.19%	19.39%	8.92%	1.53%
Medium	77.78%	-36.36%	-9.13%	4.08%	6.99%	-4.59%	2.12%
High	12.48%	5.59%	-1.56%	-8.79%	-18.47%	20.56%	4.23%

Table A.18.1 School-Wide Positive Behavior Support Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009

School-Wide Positive Behavior Support Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	9.05%	-4.57%	1.50%	-7.25%	10.70%	11.52%	3.49%
Medium	22.22%	-52.27%	-2.96%	-6.30%	4.05%	46.29%	5.16%
High	22.10%	-14.19%	1.14%	-23.55%	-16.04%	-7.92%	.42%

Table A.18.2 School-Wide Positive Behavior Support Degree of Implementation and Math Percent Change in Proficiency by Grade Level from 2008 to 2009

School-Wide Positive Behavior Support Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009							
Degree of Implementation	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Combined Grades
Low	N/A	N/A	0.04%	N/A	N/A	7.81%	3.92%
Medium	N/A	N/A	2.37%	N/A	N/A	-0.08%	1.39%
High	N/A	N/A	2.19%	N/A	N/A	19.68%	3.51%

Table A.18.3 School-Wide Positive Behavior Support Degree of Implementation and Science Percent Change in Proficiency by Grade Level from 2008 to 2009

School-Wide Positive Behavior Support Degree of Implementation and 2009 Average Missouri Performance Index						
Degree of Implementation	MAP EOC English II 2009	Status Level EOC English II 2009	MAP EOC Algebra 1 2009	Status Level EOC Algebra 1 2009	MAP EOC Biology 1 2009	Status Level EOC Biology 1 2009
Low	786.5	Average	752.7	Average	734.2	Below Average
Medium	785.2	Average	764.5	High 2	768.65	High 2
High	N/A	N/A	N/A	N/A	N/A	N/A

Table A.18.4 School-Wide Positive Behavior Support Degree of Implementation and 2009 Average Missouri Performance Index

A.19 Technology Centers that Work (TCTW)

No student achievement data was provided for the three Technology Centers that Work (TCTW) sites. Technology Centers that Work are housed in shared Career and Technical Centers across the state that are located in districts. Students who attend the local high school have the opportunity as freshmen and sophomores to take hourly electives. Juniors and seniors from the local high school and from the area sending schools either attend a three-hour morning session at the TCTW in a vocational area of their choice, or a three-hour session in the afternoon. The students attend classes at their home schools for the other portion of the day. The Missouri State Assessments are administered to students in their freshmen and sophomore years in their home districts before they become TCTW students for half day block sessions. However, the TCTW initiative embeds literacy and numeracy into vocational and technical courses.

Appendix B

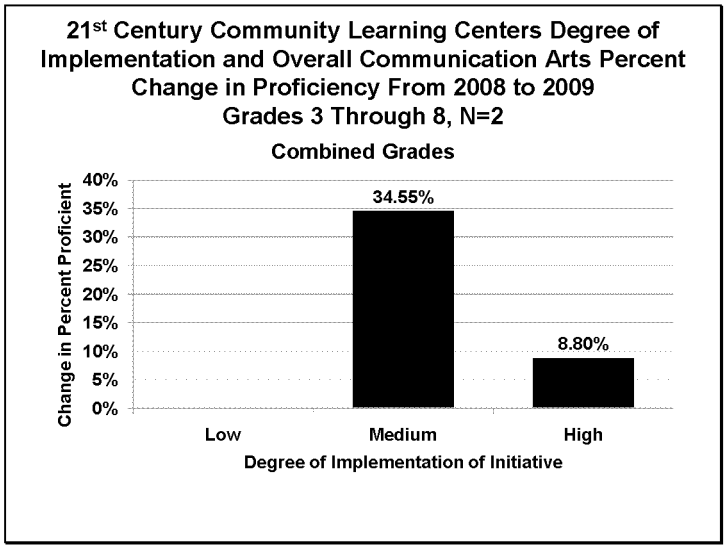
Missouri Department of Education Implementation Audit™

Implementation Graphs

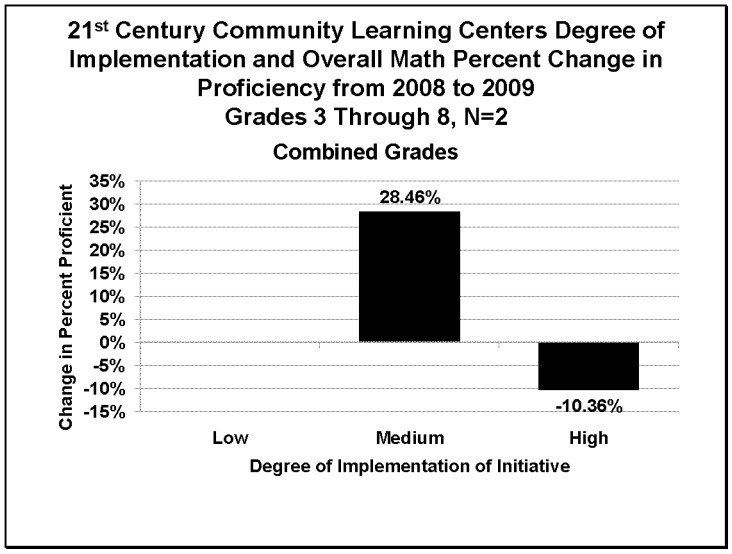
Appendix B

Appendix B: Degree of implementation and overall percent proficiency change from 2008 to 2009 in communication arts, math, and science or overall average performance index in English, math and overall science.

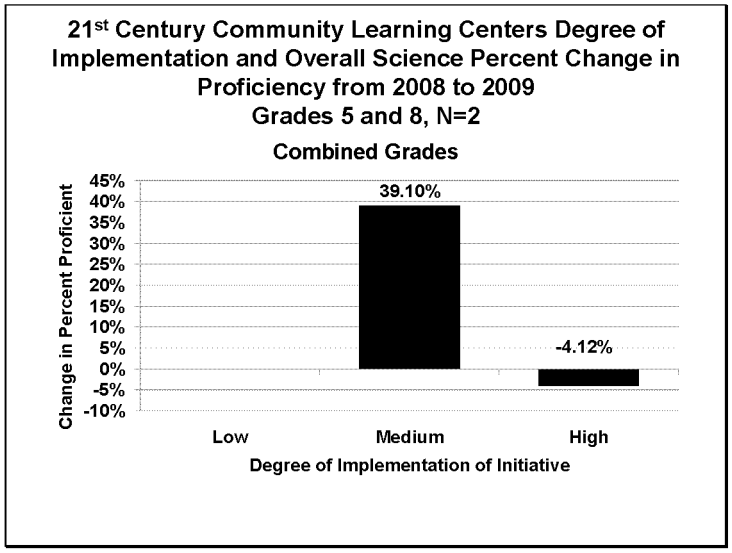
B. 1 21st Century Community Learning Centers (21st CCLC) – Grades 3-12



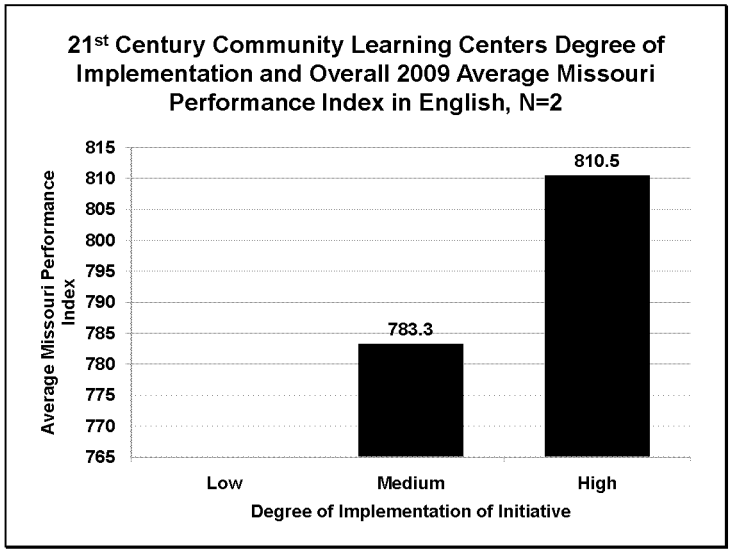
B.1.1 21st Century Community Learning Centers Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009, Grades 3 Through 8



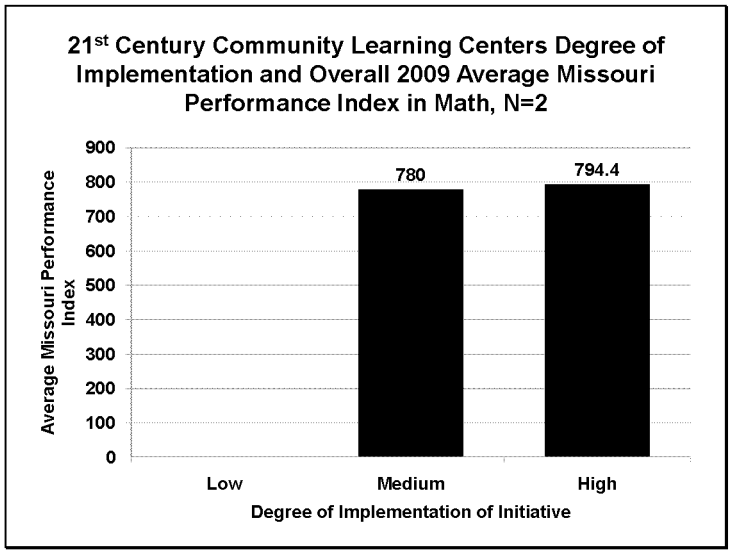
B.1.2 21st Century Community Learning Centers Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009, Grades 3 Through 8



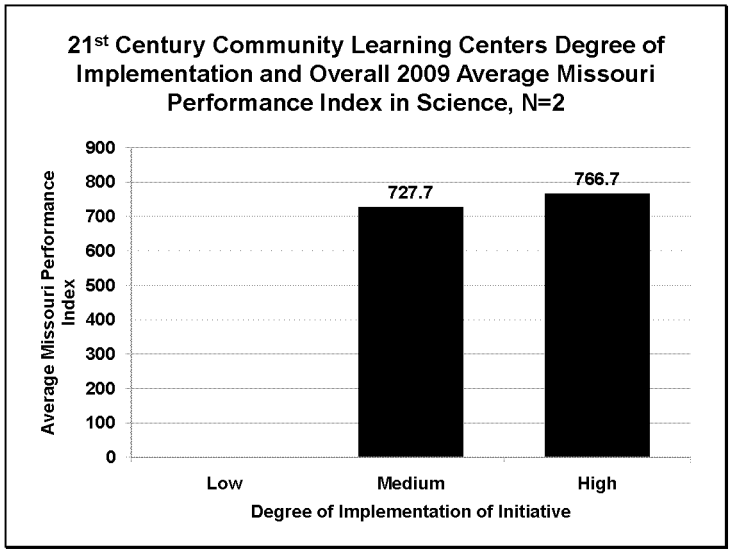
B.1.3 21st Century Community Learning Centers Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009, Grades 5 and 8



B.1.4 21st Century Community Learning Centers Degree of Implementation and Overall 2009 Average Missouri Performance Index in English

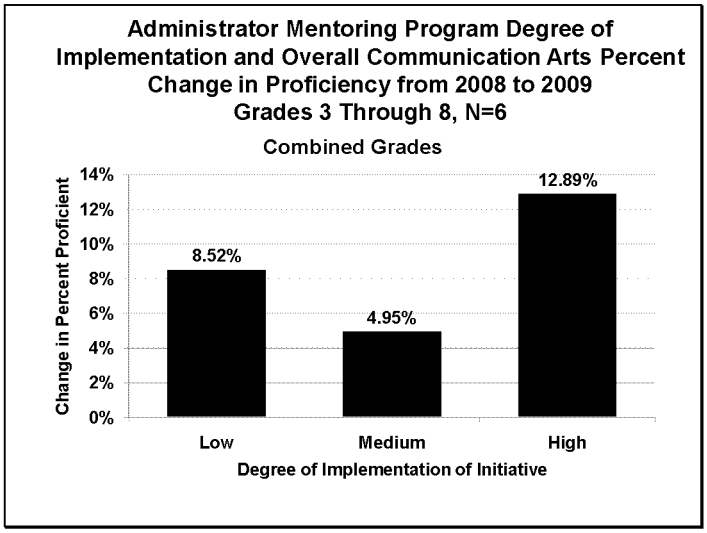


B.1.5 21st Century Community Learning Centers Degree of Implementation and Overall 2009 Average Missouri Performance Index in Math

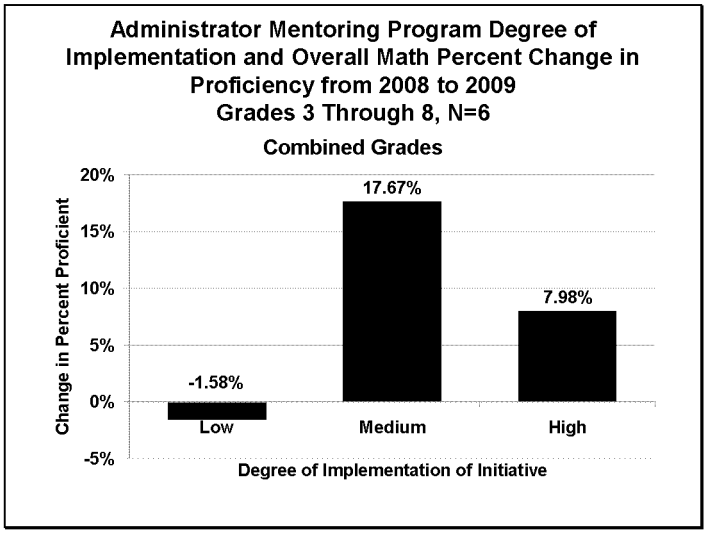


B.1.6 21st Century Community Learning Centers Degree of Implementation and Overall 2009 Average Missouri Performance Index in Science

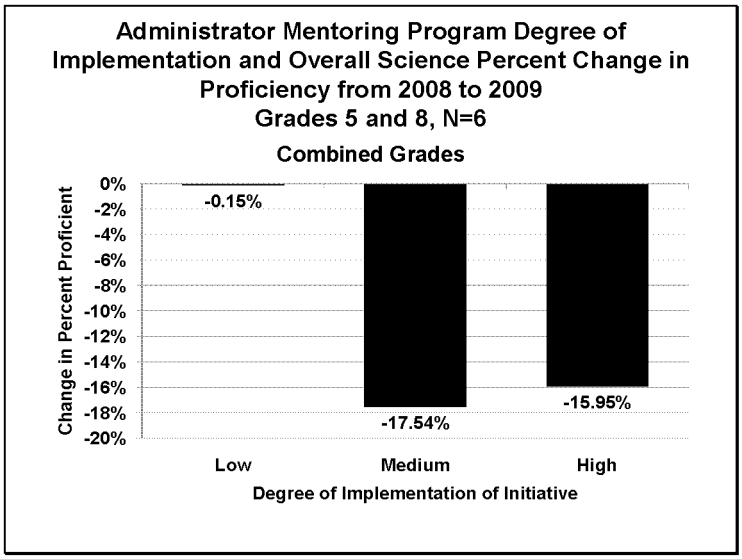
B.2 Administrator Mentoring Program (AMP)– Grades 3-12



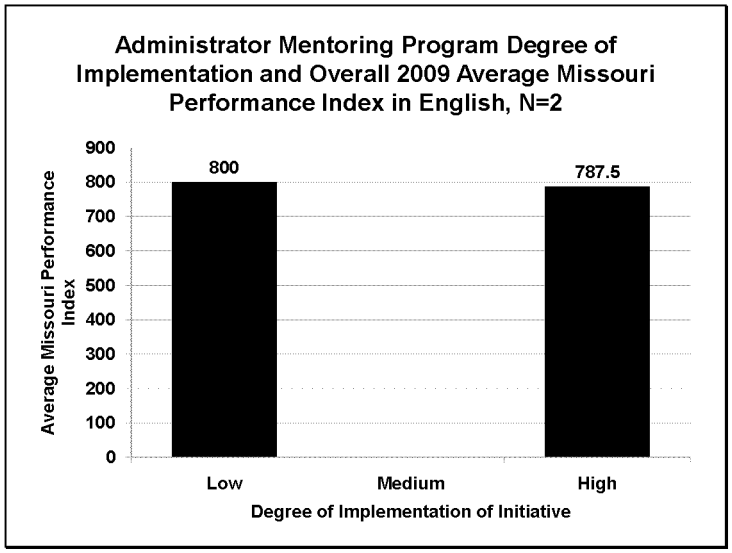
B.2.1 Administrator Mentoring Program Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009, Grades 3 Through 8



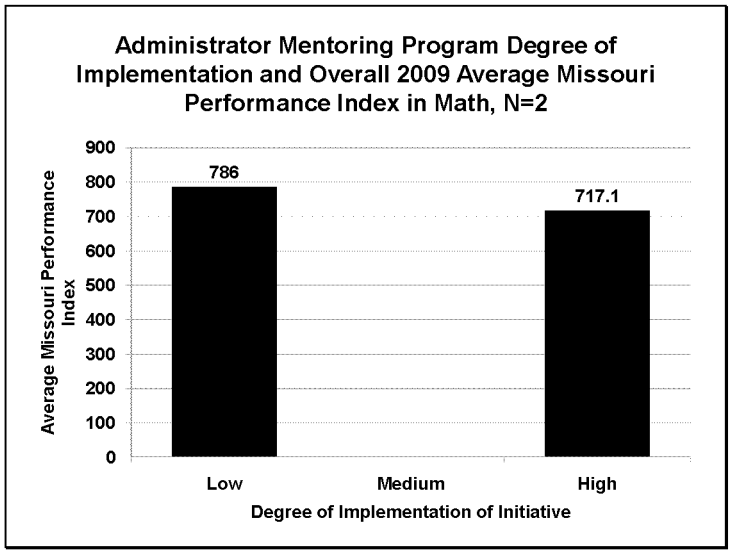
B.2.2 Administrator Mentoring Program Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009, Grades 3 Through 8



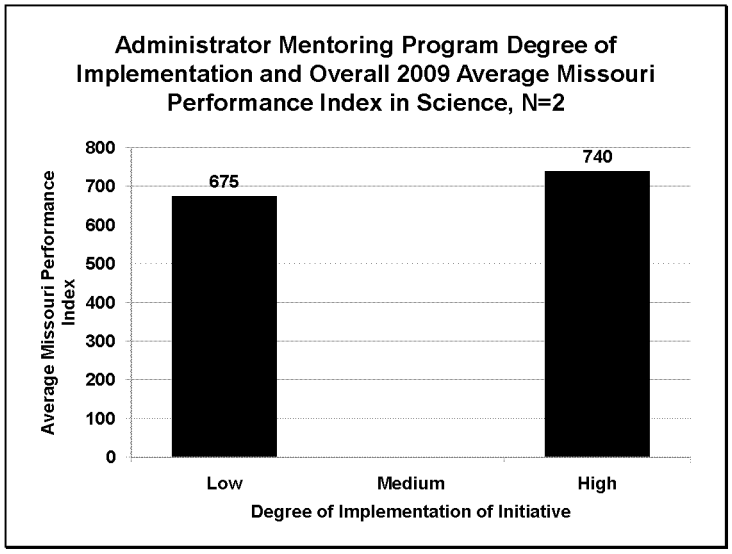
B.2.3 Administrator Mentoring Program Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009, Grades 5 and 8



B.2.4 Administrator Mentoring Program Degree of Implementation and Overall 2009 Average Missouri Performance Index in English

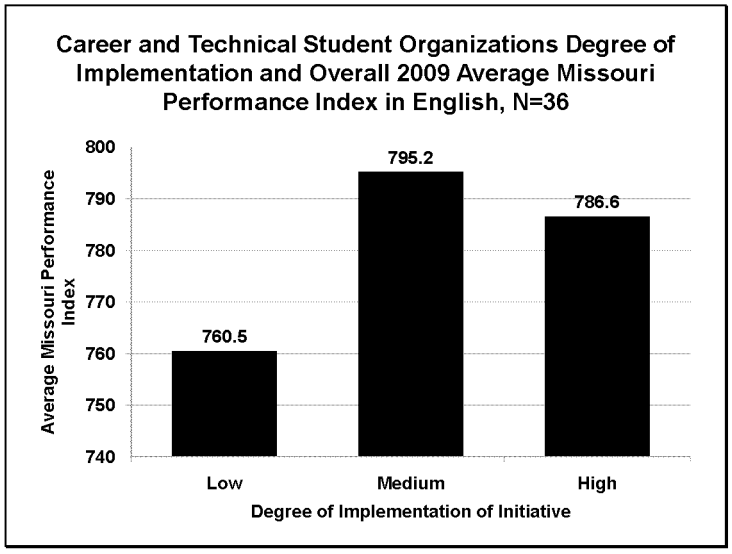


B.2.5 Administrator Mentoring Program Degree of Implementation and Overall 2009 Average Missouri Performance Index in Math

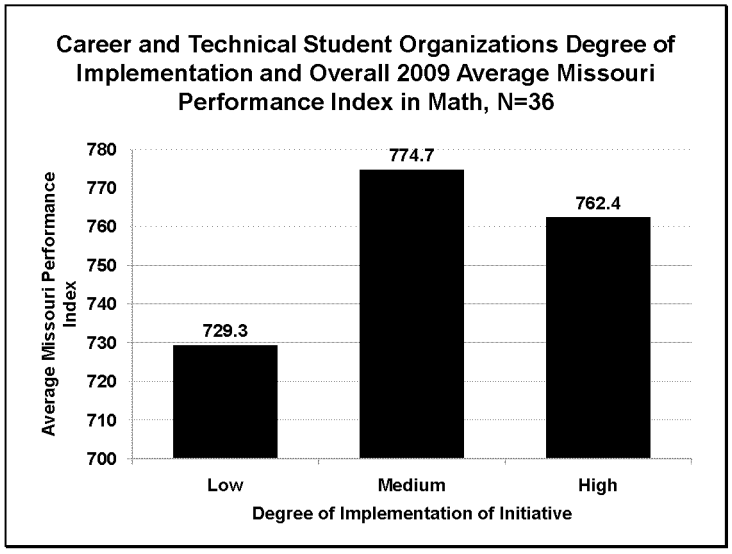


B.2.6 Administrator Mentoring Program Degree of Implementation and Overall 2009 Average Missouri Performance Index in Science

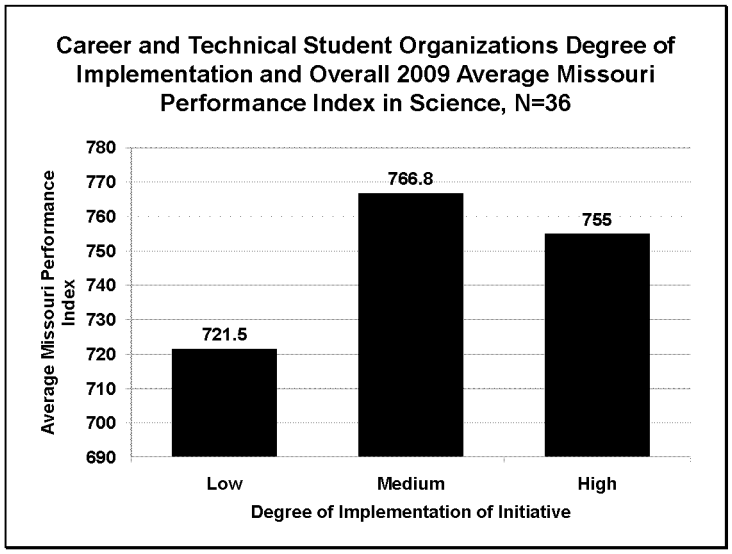
B.3 Career and Technical Student Organizations (CTSOs)– Grades 9-12



B.3.1 Career and Technical Student Organizations Degree of Implementation and Overall 2009 Average Missouri Performance Index in English

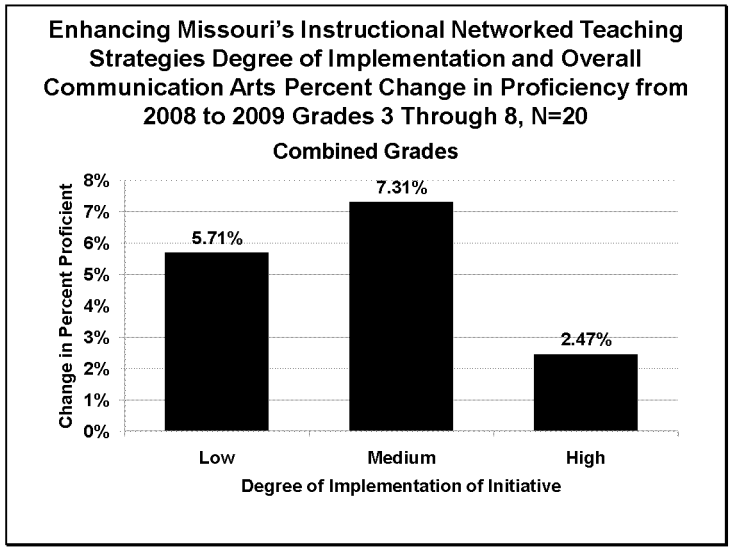


B.3.2 Career and Technical Student Organizations Degree of Implementation and Overall 2009 Average Missouri Performance Index in Math

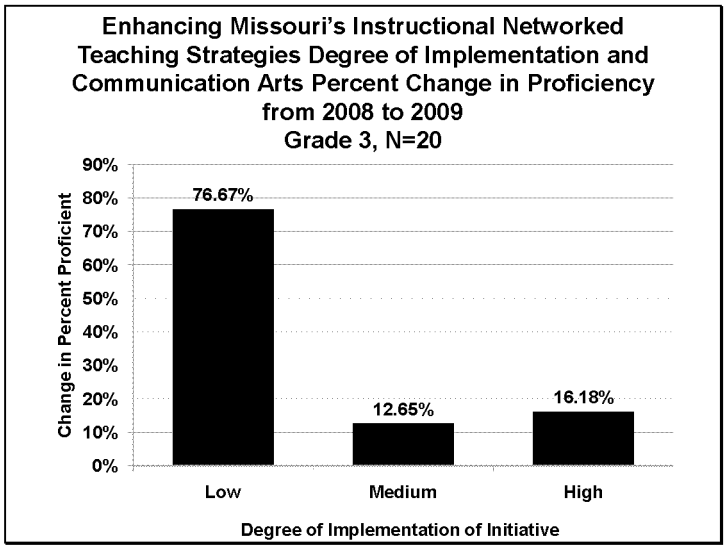


B.3.3 Career and Technical Student Organizations Degree of Implementation and Overall 2009 Average Missouri Performance Index in Science

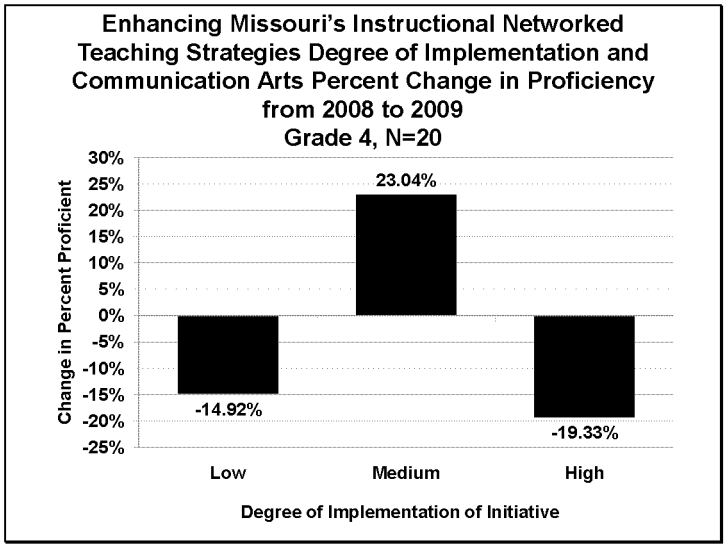
B. 4 Enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS)– Grades 3-12



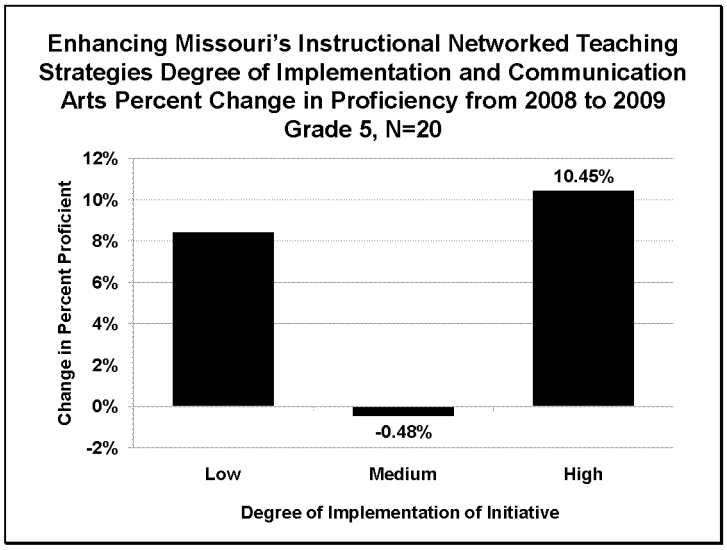
B.4.1 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009, Grades 3 Through 8



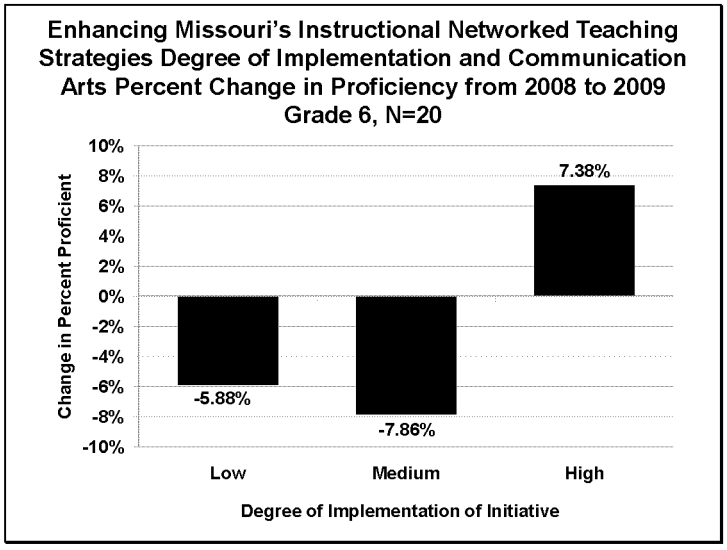
B.4.1.2 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 3



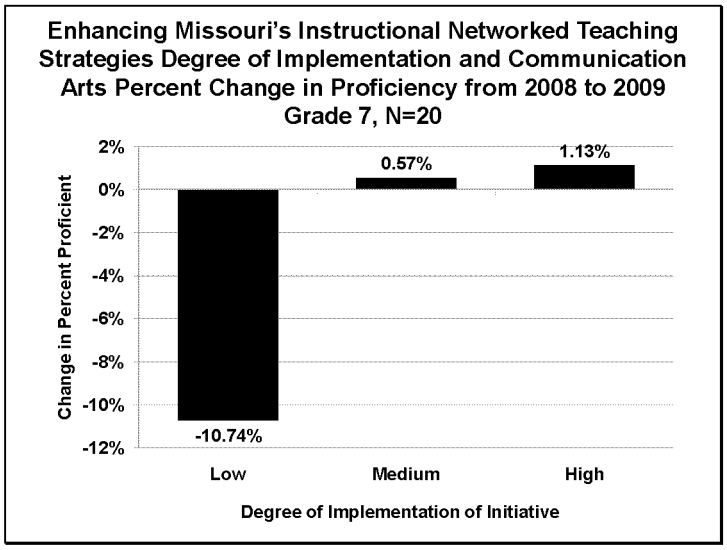
B.4.1.3 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 4



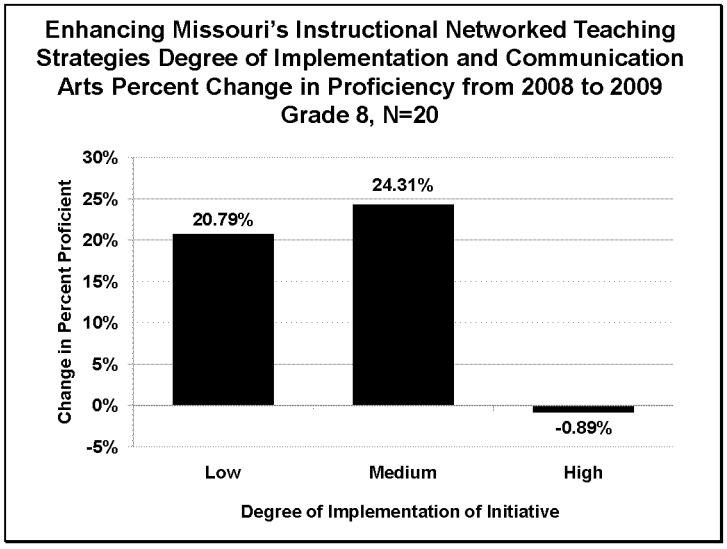
B.4.1.4 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 5



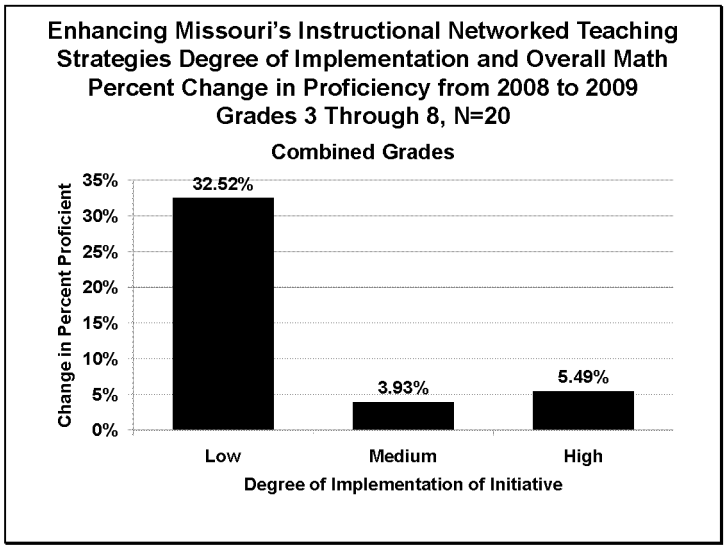
B.4.1.5 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 6



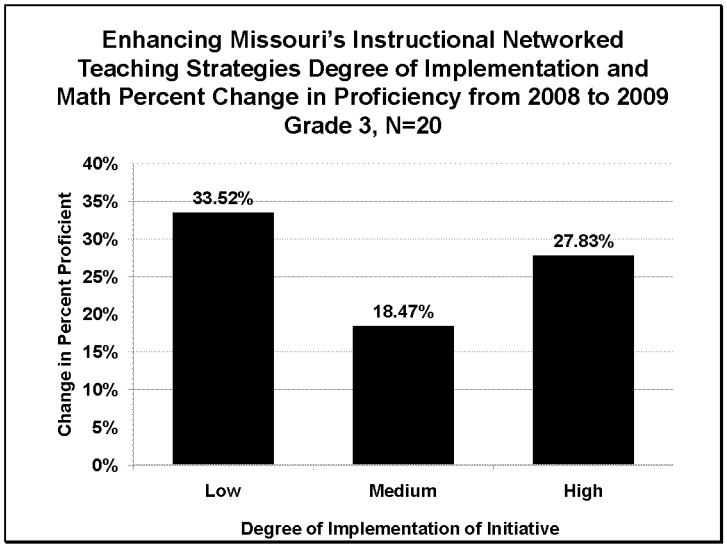
B.4.1.6 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 7



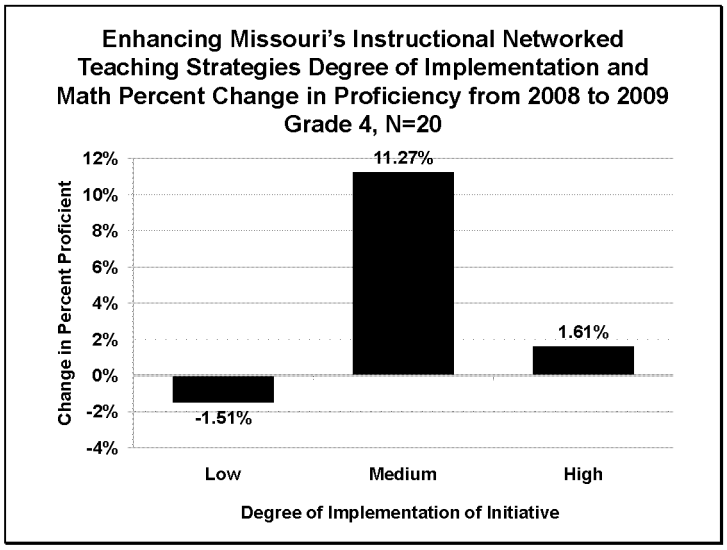
B.4.1.7 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 8



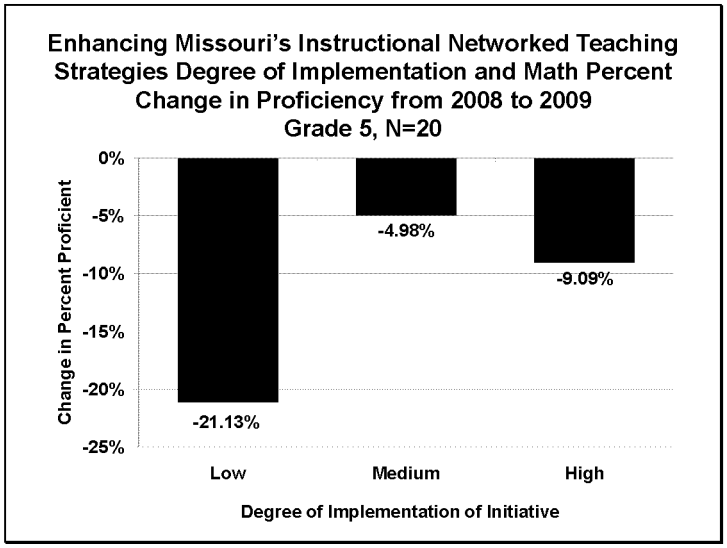
B.4.2 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009, Grades 3 Through 8



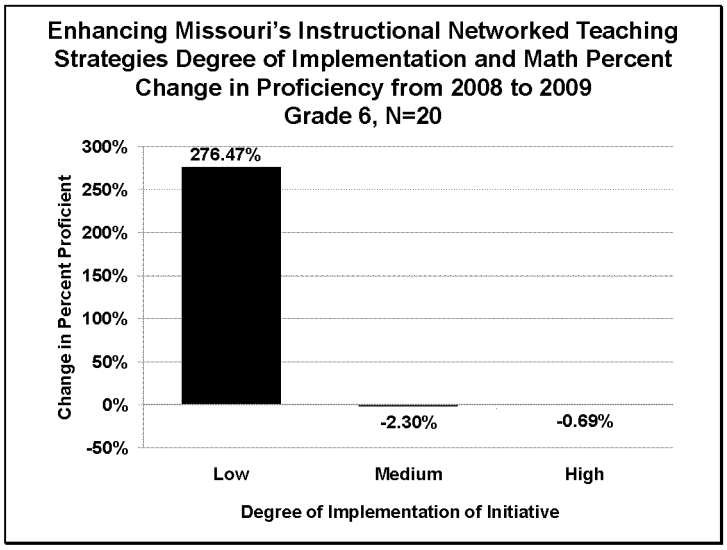
B.4.2.1 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 3



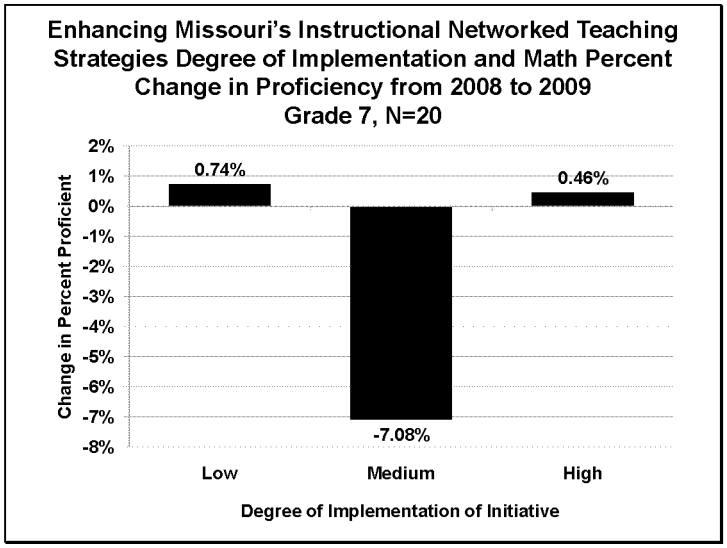
B.4.2.2 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 4



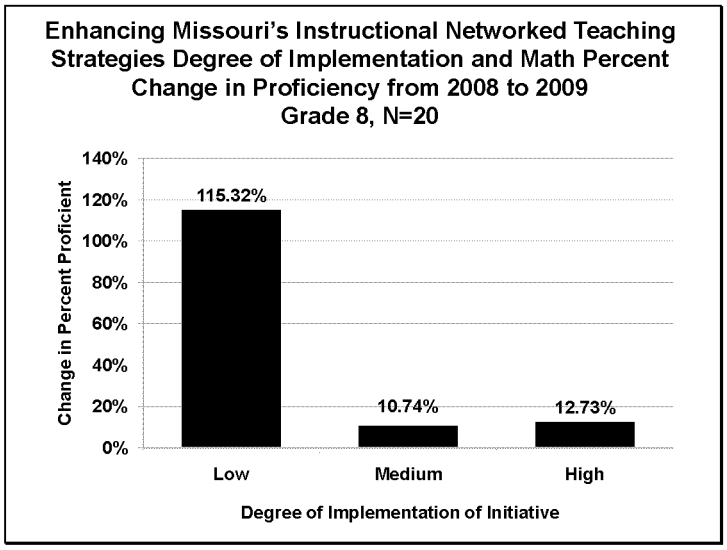
B.4.2.3 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 5



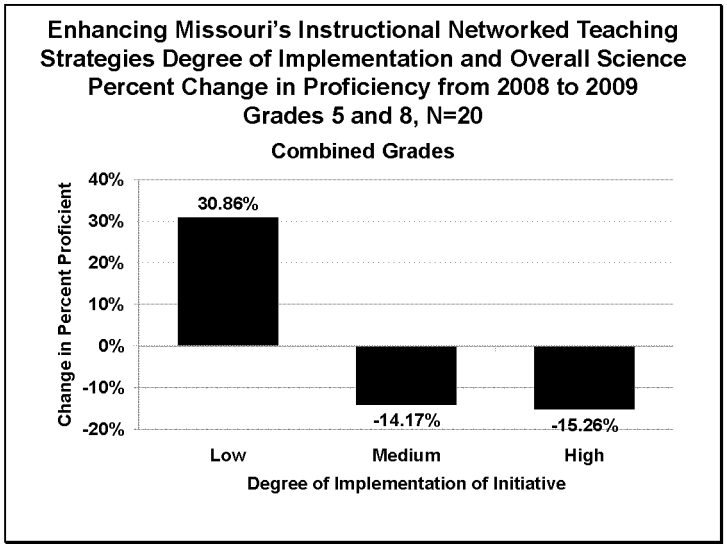
B.4.2.4 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 6



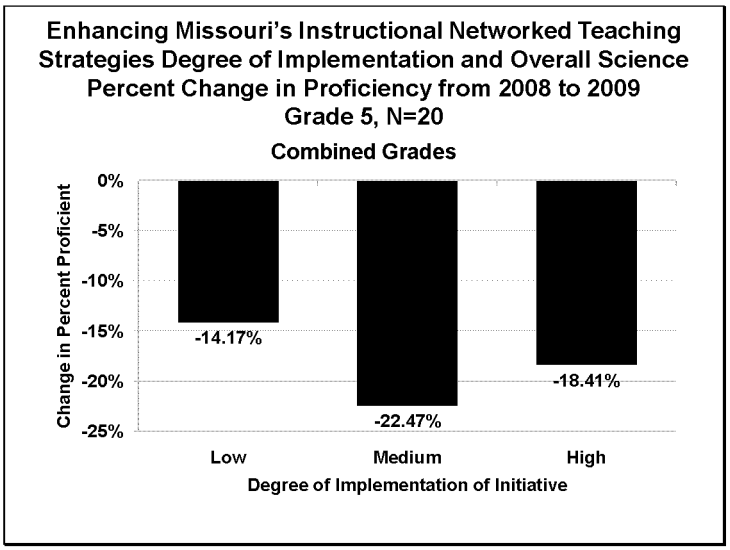
B.4.2.5 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 7



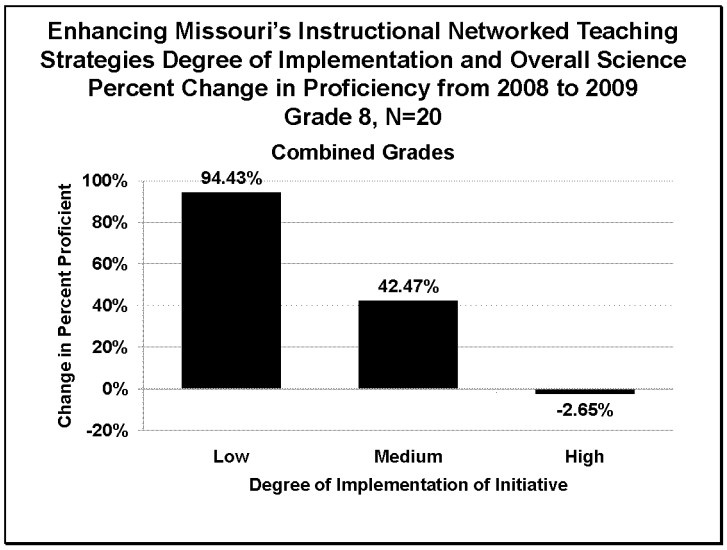
B.4.2.6 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 8



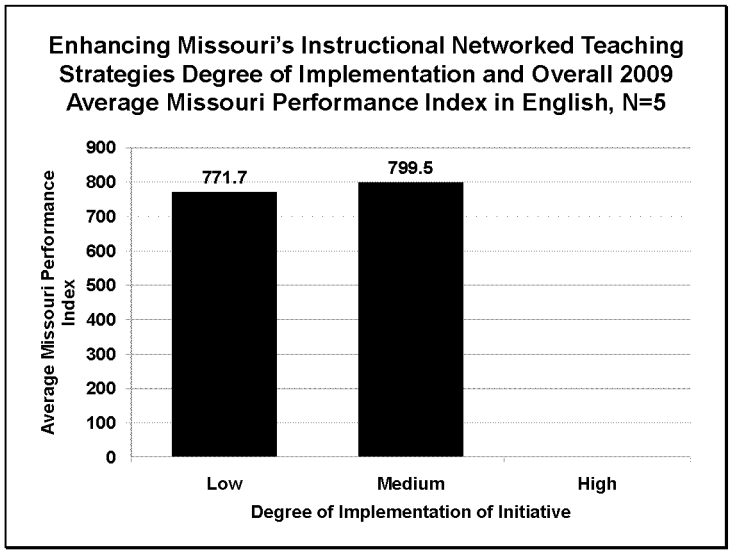
B.4.3 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009, Grades 5 and 8



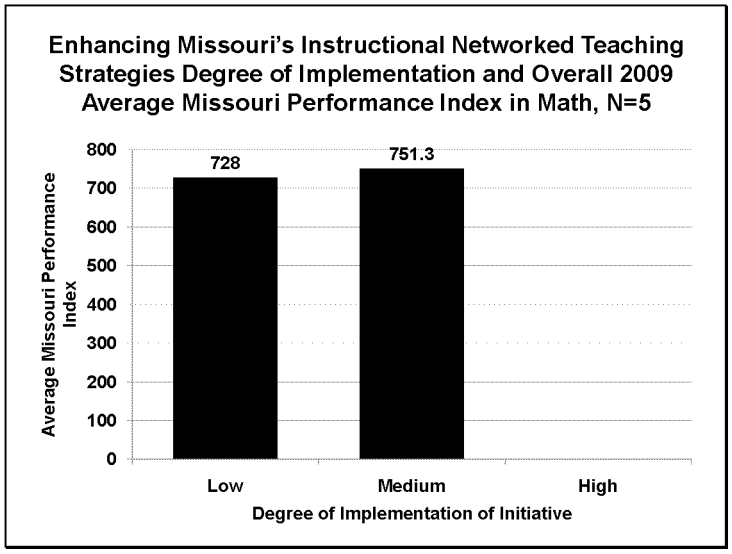
B.4.3.1 Enhancing Missouri's Instructional Networked Teaching Strategies Degree Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009, Grade 5



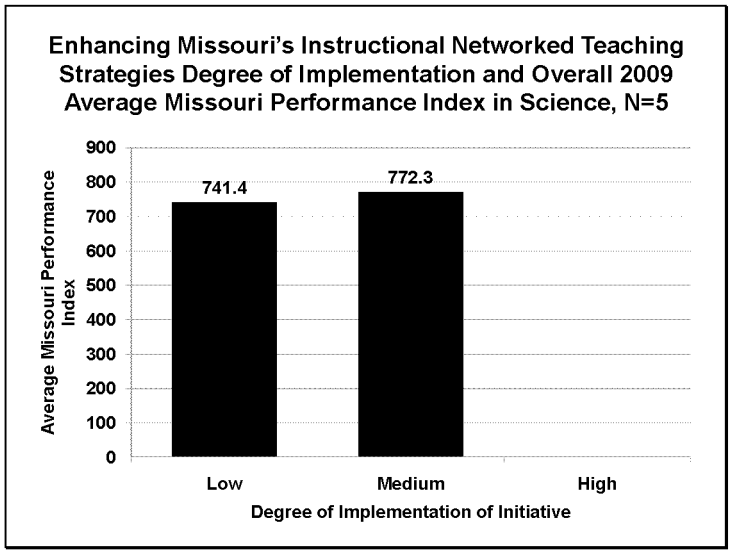
B.4.3.2 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009, Grade 8



B.4.4 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Overall 2009 Average Missouri Performance Index in English

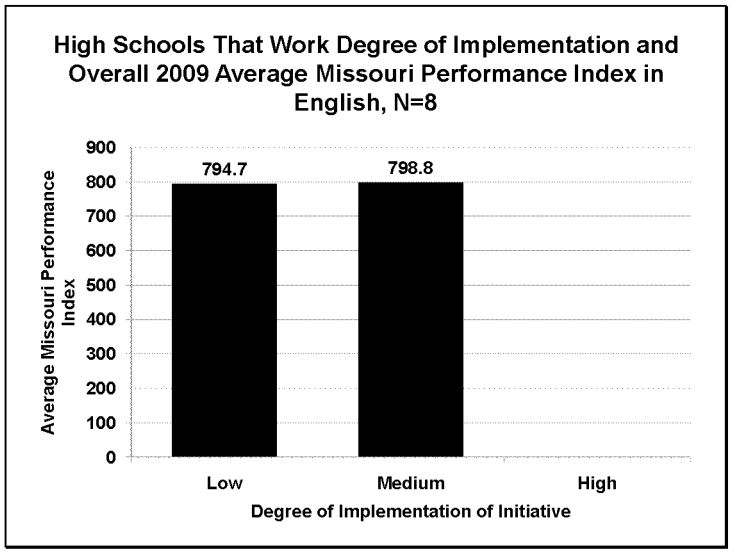


B.4.5 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Overall 2009 Average Missouri Performance Index in Math

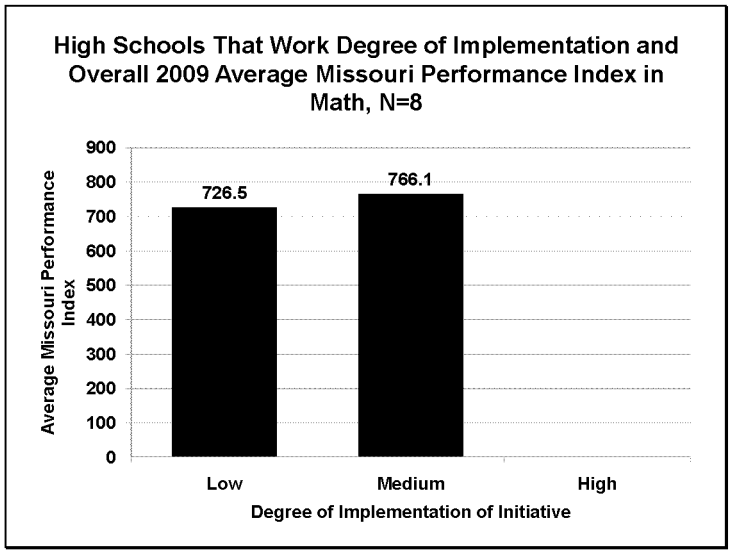


B.4.6 Enhancing Missouri's Instructional Networked Teaching Strategies Degree of Implementation and Overall 2009 Average Missouri Performance Index in Science

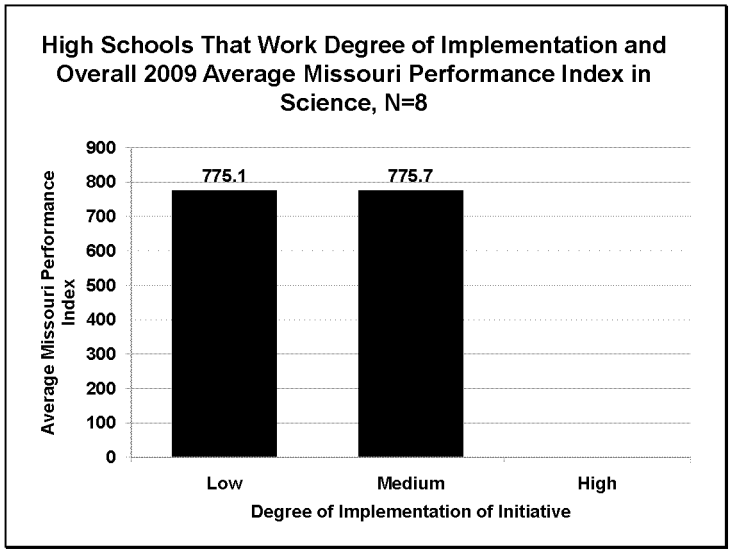
B.5 High Schools that Work (HSTW)– Grades 9-12



B.5.1 High Schools that Work Degree of Implementation and Overall 2009 Average Missouri Performance Index in English



B.5.2 High Schools that Work Degree of Implementation and Overall 2009 Average Missouri Performance Index in Math



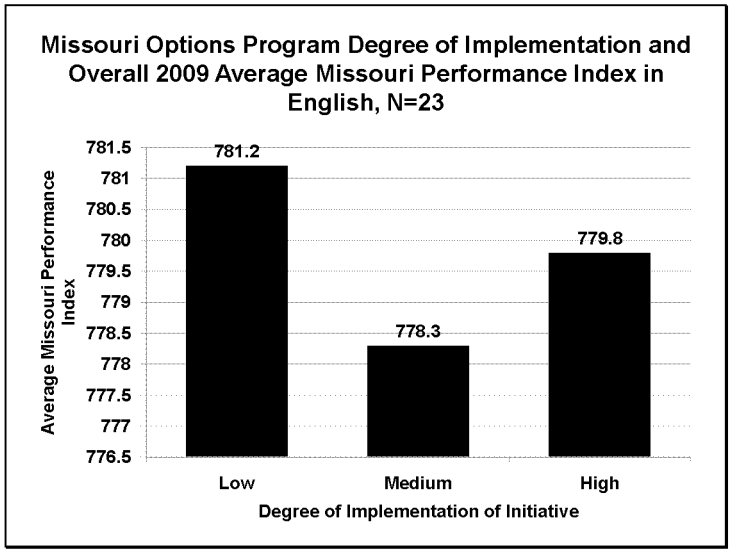
B.5.3 High Schools that Work Degree of Implementation and Overall 2009 Average Missouri Performance Index in Science

B.6 Making Middle Grades Work (MMGW)– not charted; see Appendix A

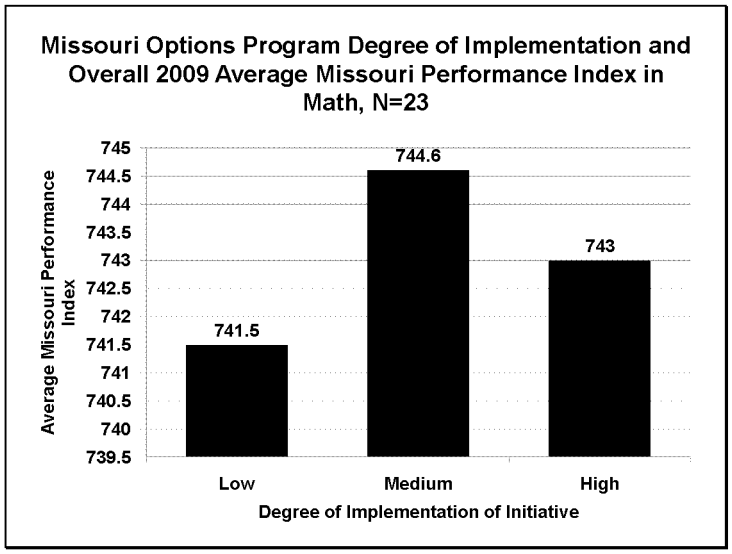
B. 7 Math-Science Partnership (MSP)– not charted; see Appendix A

B.8 Missouri Integrated Model (MIM)– not charted; see Appendix A

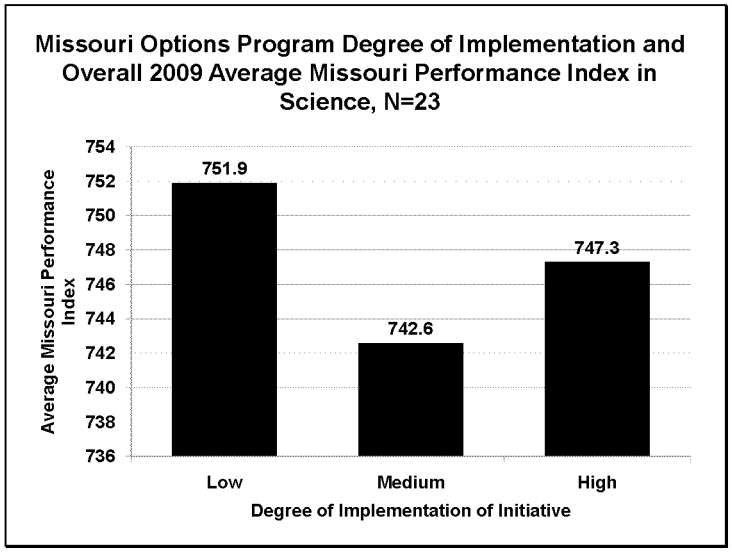
B.9 Missouri Option Program (MOP)– Grades 9-12



B.9.1 Missouri Option Program Degree of Implementation and Overall 2009 Average Missouri Performance Index in English



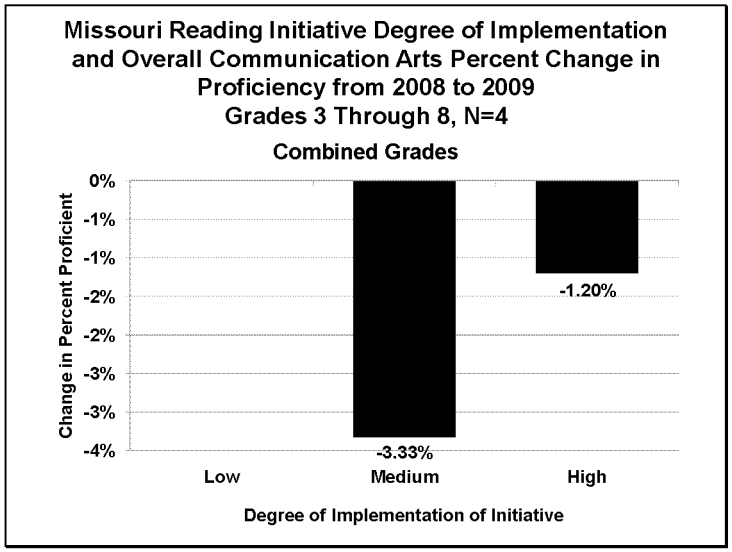
B.9.2 Missouri Option Program and Overall 2009 Average Missouri Performance Index in Math



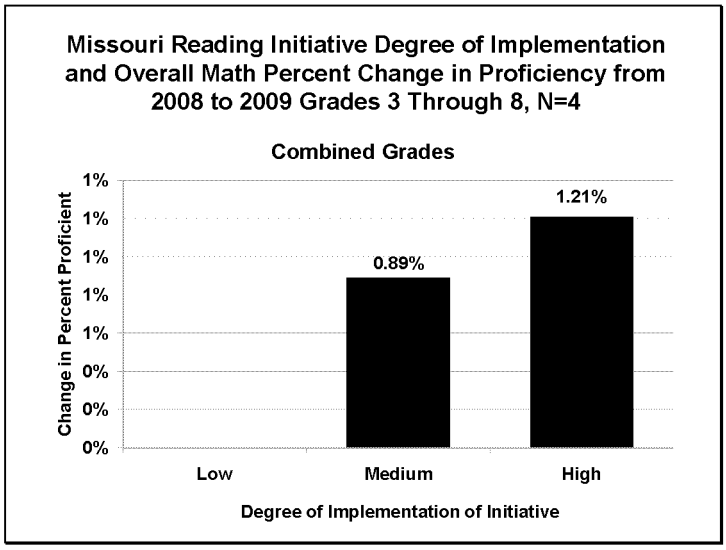
B.9.3 Missouri Option Program Degree of Implementation and Overall 2009 Average Missouri Performance Index in Science

B.10 Missouri Preschool Program (MPP)– not charted; see Appendix A

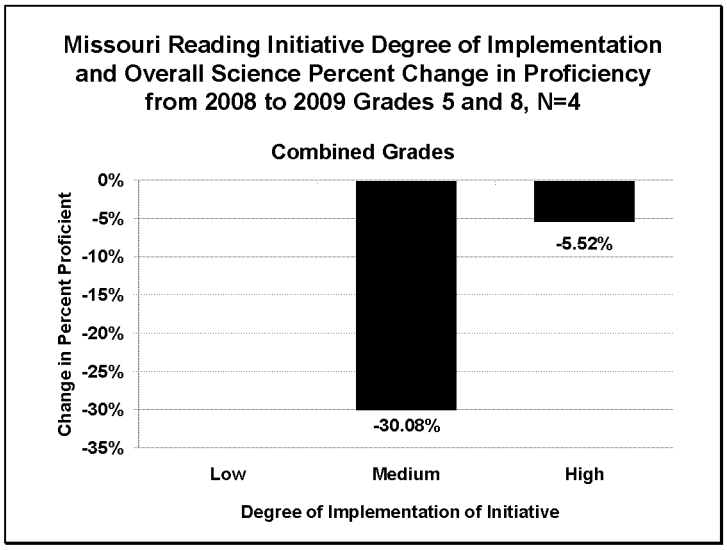
B. 11 Missouri Reading Initiative (MRI)



B.11.1 Missouri Reading Initiative Degree of Implementation and Overall Communication Arts Percent Change in Proficiency from 2008 to 2009, Grades 3 Through 8



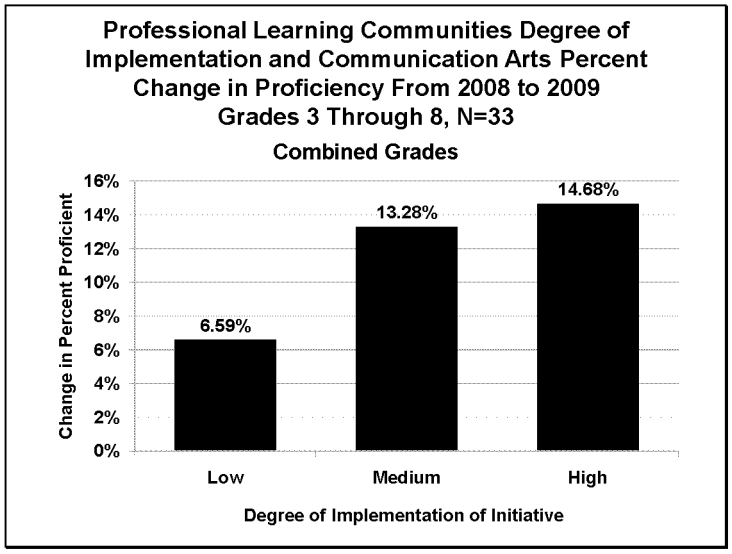
B.11.2 Missouri Reading Initiative Degree of Implementation and Overall Math Percent Change in Proficiency from 2008 to 2009, Grades 3 Through 8



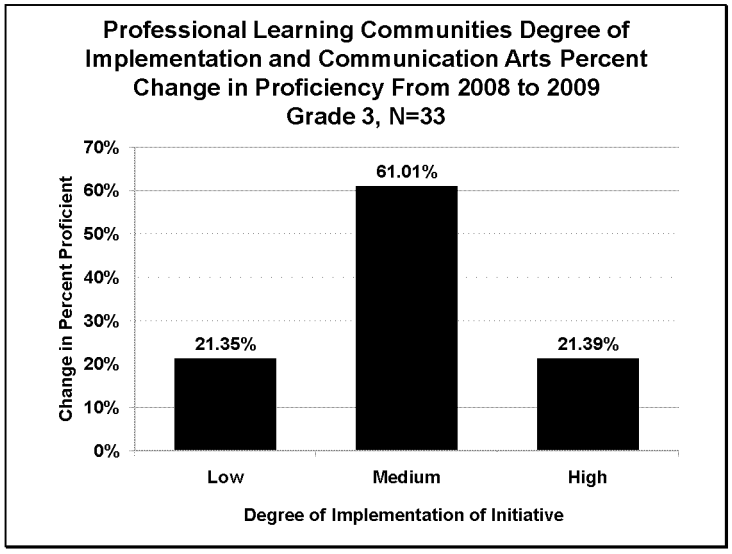
B.11.3 Missouri Reading Initiative Degree of Implementation and Overall Science Percent Change in Proficiency from 2008 to 2009, Grades 5 and 8

B.12 Missouri Virtual Instructional Program (MOVIP)– not charted; see Appendix A

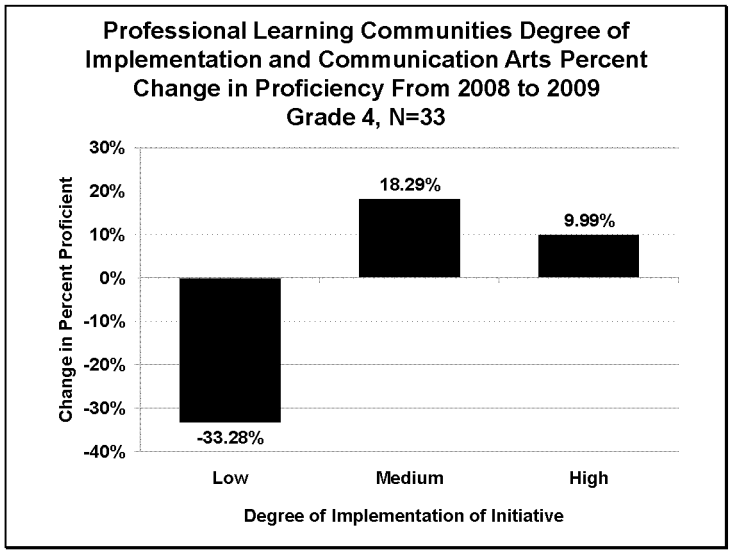
B.13 Professional Learning Communities (PLCs)– Grades 3-12



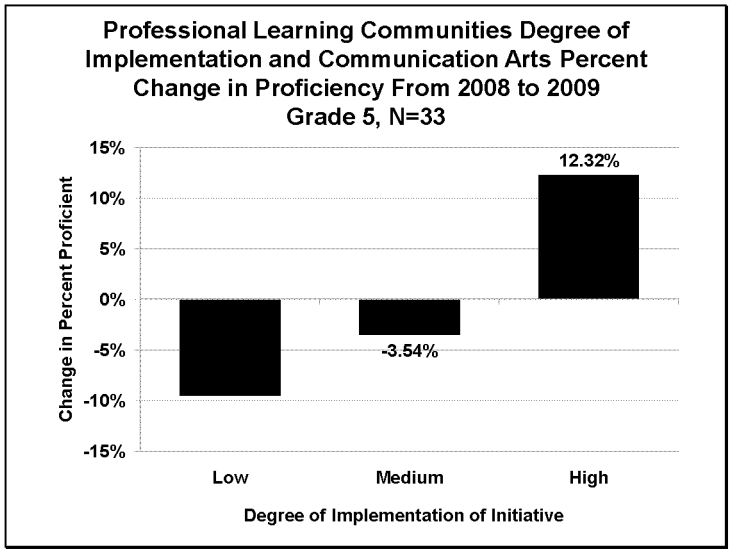
B.13.1 Professional Learning Communities Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grades 3 Through 8



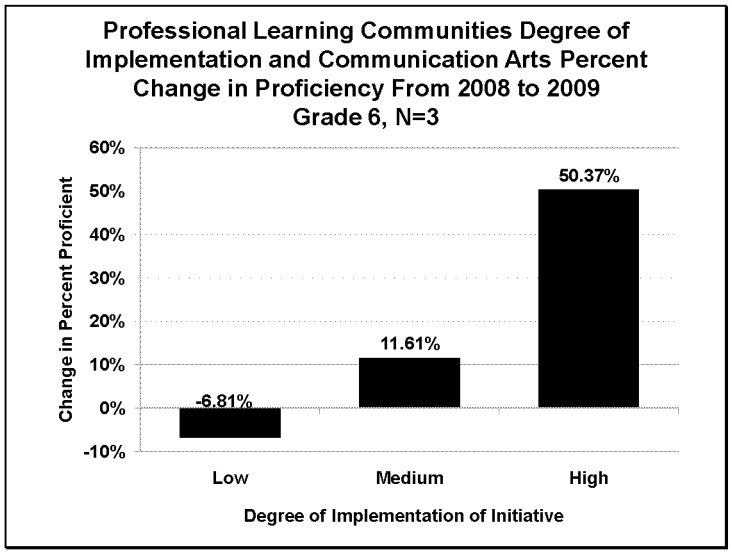
B.13.1.1 Professional Learning Communities Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 3



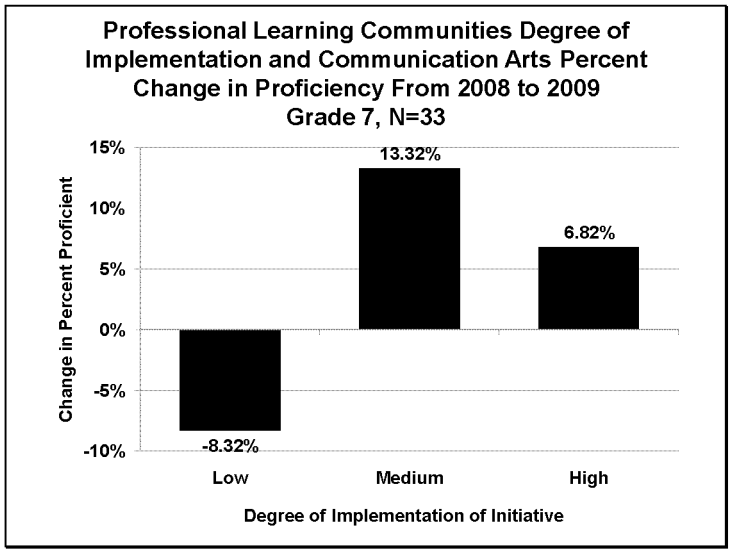
B.13.1.2 Professional Learning Communities Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 4



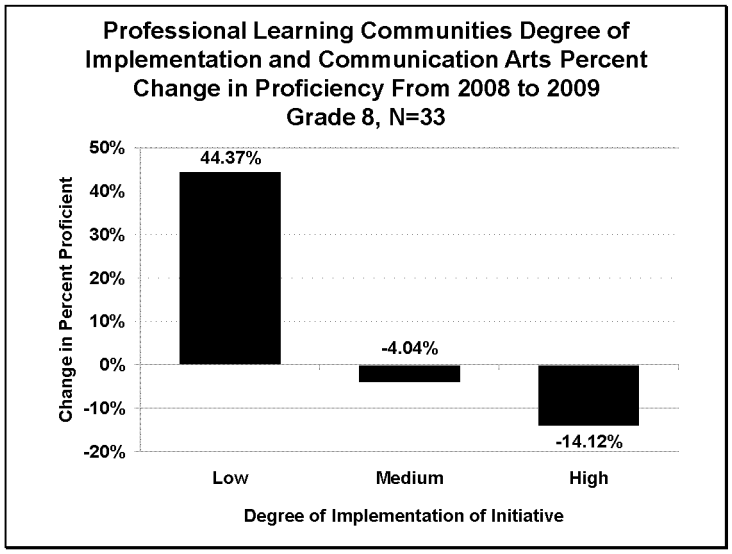
B.13.1.3 Professional Learning Communities Degree of Implementation Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 5



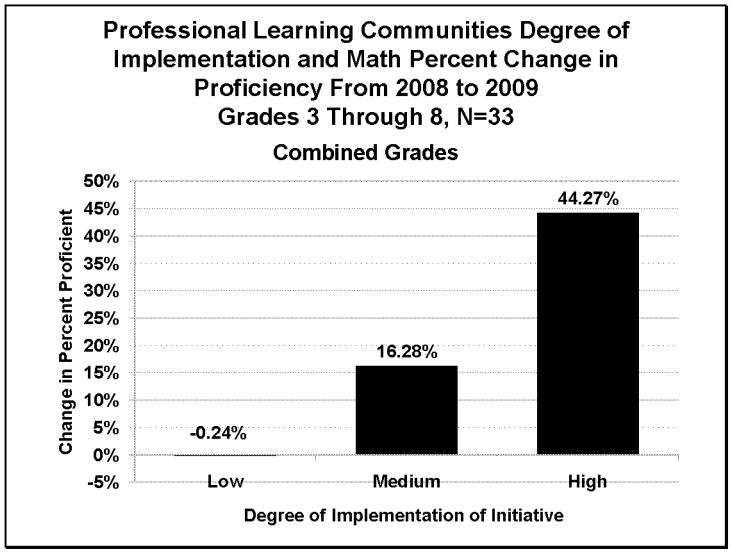
B.13.1.4 Professional Learning Communities Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 6



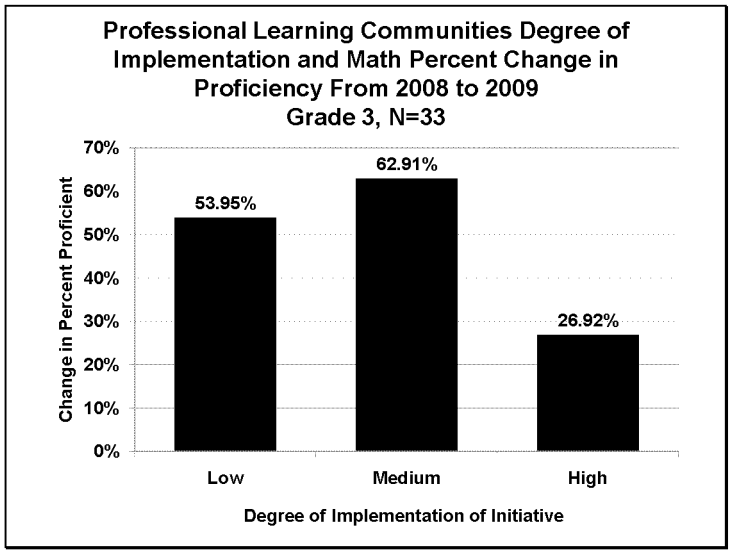
B.13.1.5 Professional Learning Communities Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 7



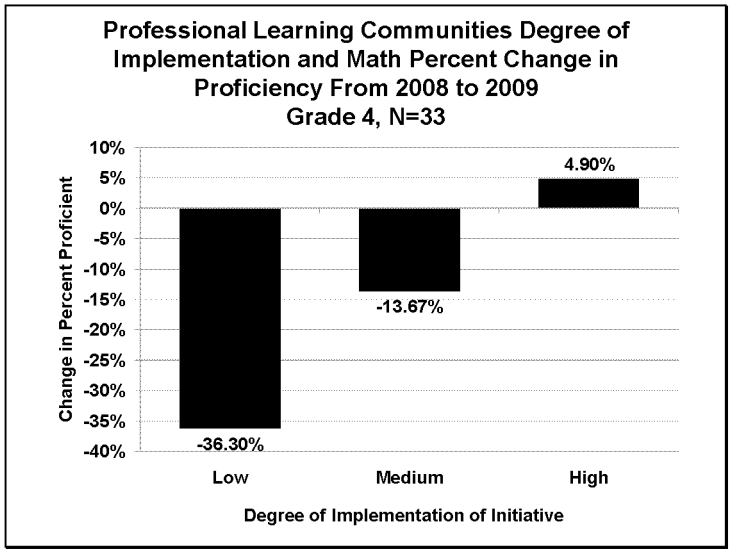
B.13.1.6 Professional Learning Communities Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 8



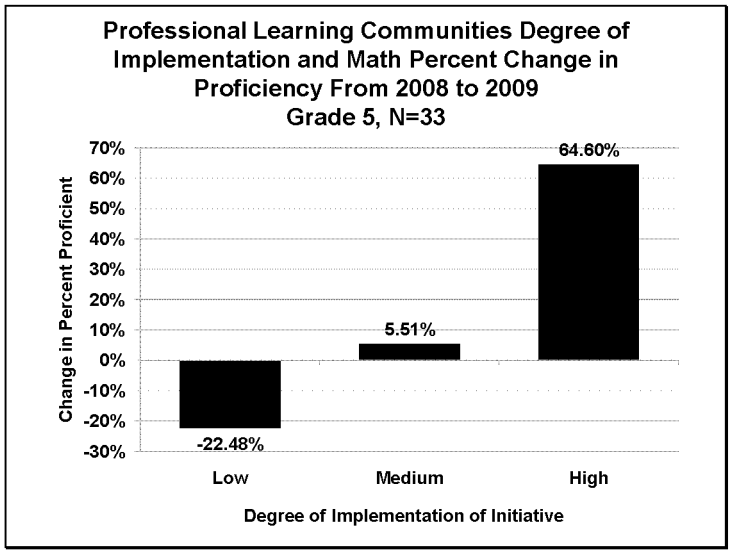
B.13.2 Professional Learning Communities Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grades 3 Through 8



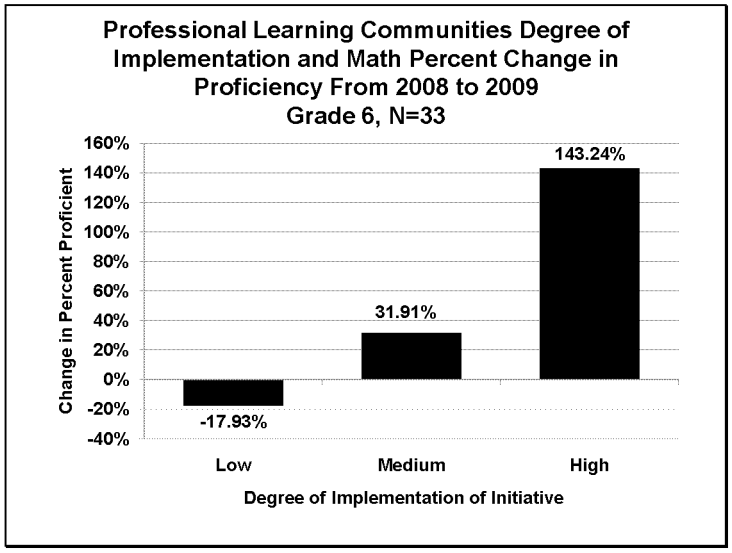
B.13.2.1 Professional Learning Communities Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 3



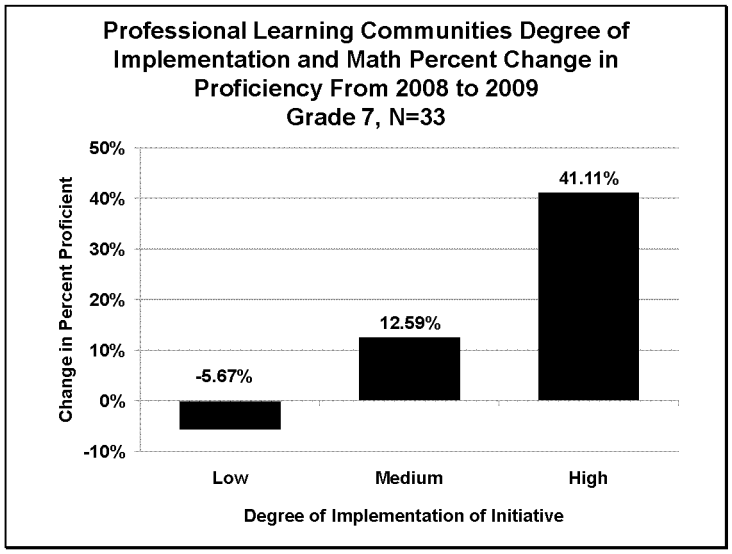
B.13.2.2 Professional Learning Communities Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 4



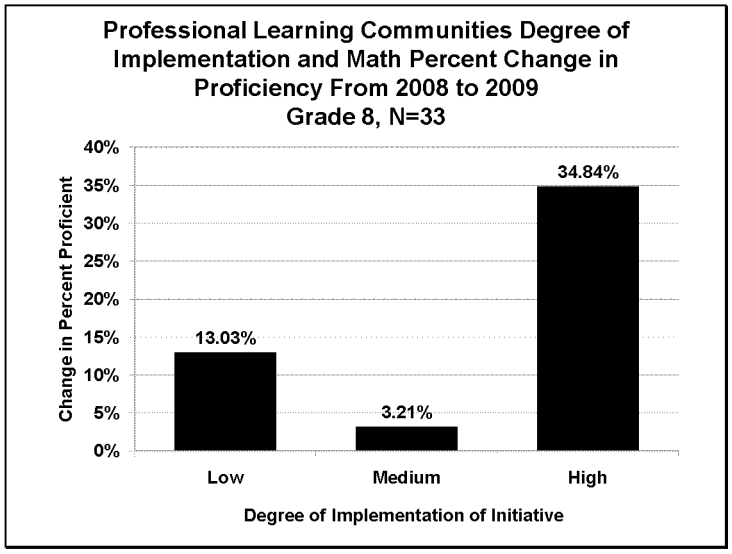
B.13.2.3 Professional Learning Communities Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 5



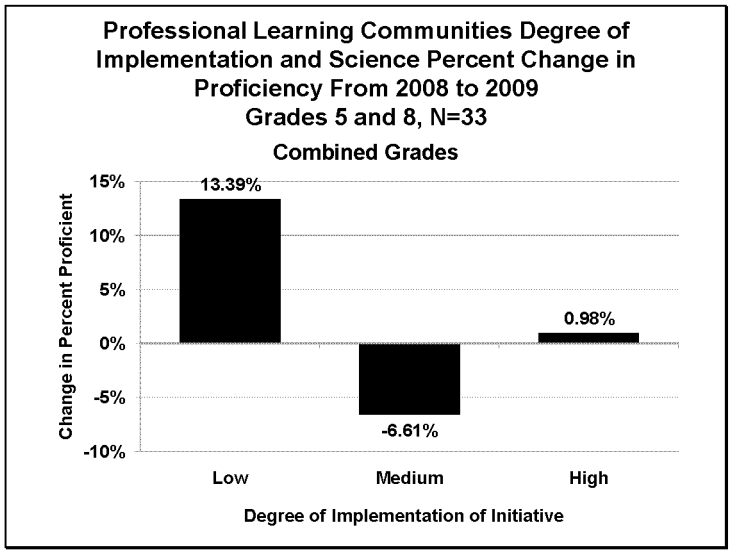
B.13.2.4 Professional Learning Communities Degree of Implementation and Math Percent Change in Proficiency by Grade from 2008 to 2009, Grade 6



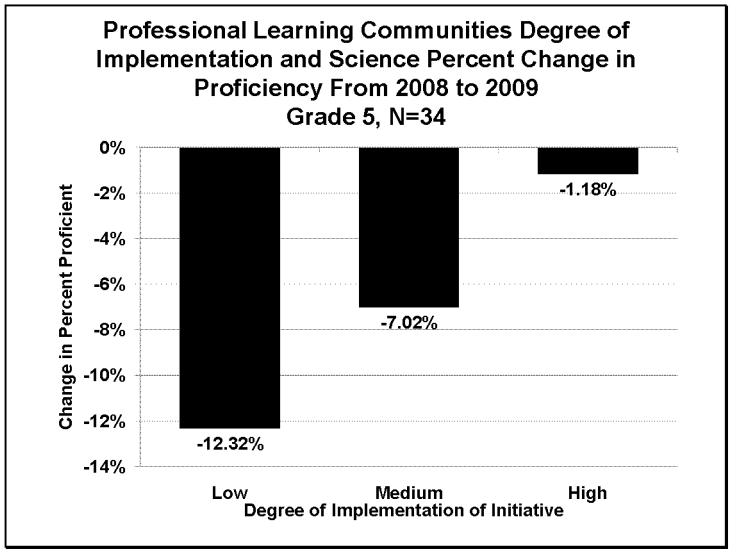
B.13.2.5 Professional Learning Communities Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 7



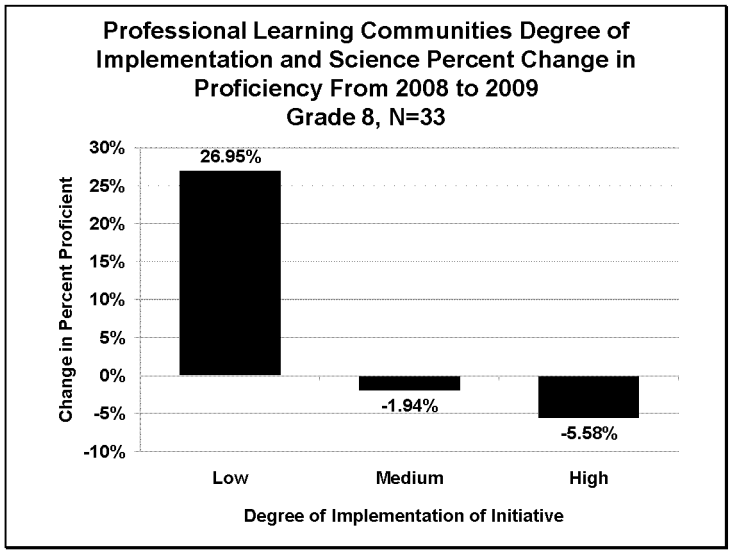
B.13.2.6 Professional Learning Communities Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 8



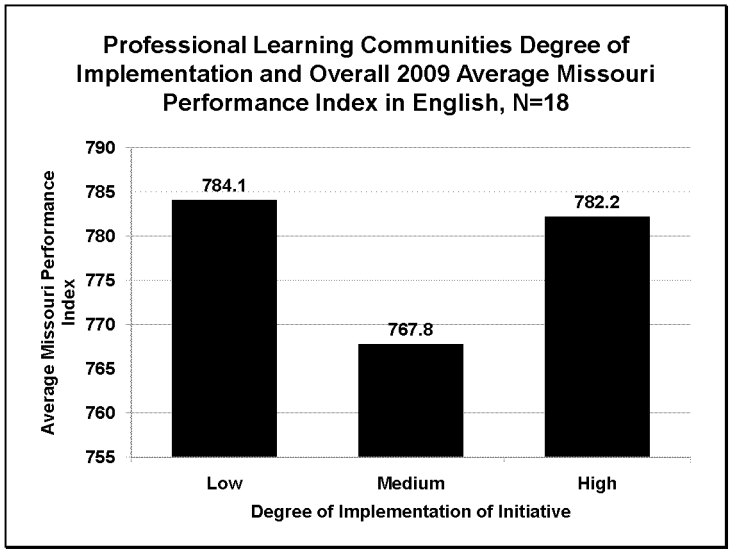
B.13.3 Professional Learning Communities Degree of Implementation and Science Percent Change in Proficiency from 2008 to 2009, Grades 5 and 8



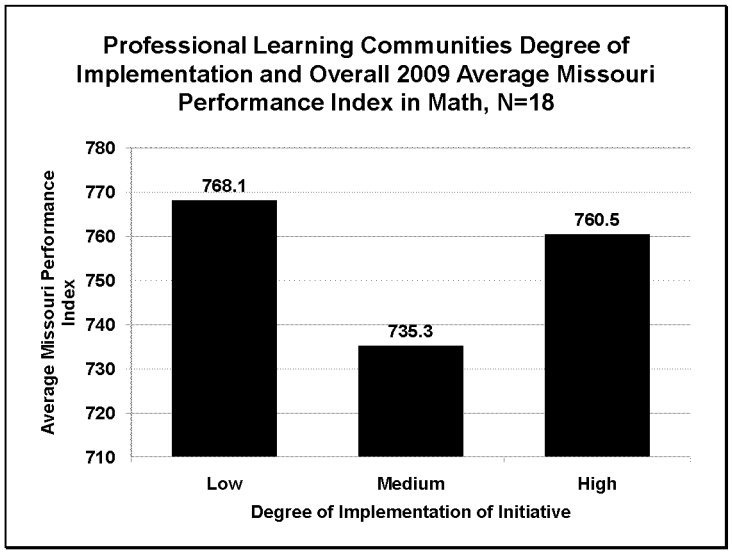
B.13.3.1 Professional Learning Communities Degree of Implementation Science Percent Change in Proficiency from 2008 to 2009, Grade 5



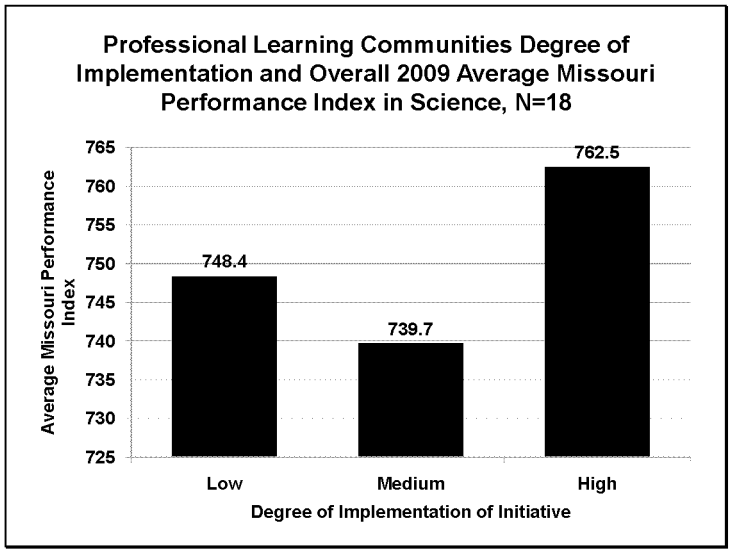
B.13.3.2 Professional Learning Communities Degree of Implementation and Science Percent Change in Proficiency from 2008 to 2009, Grade 8



B.13.4 Professional Learning Communities Degree of Implementation and Overall 2009 Average Missouri Performance Index in English

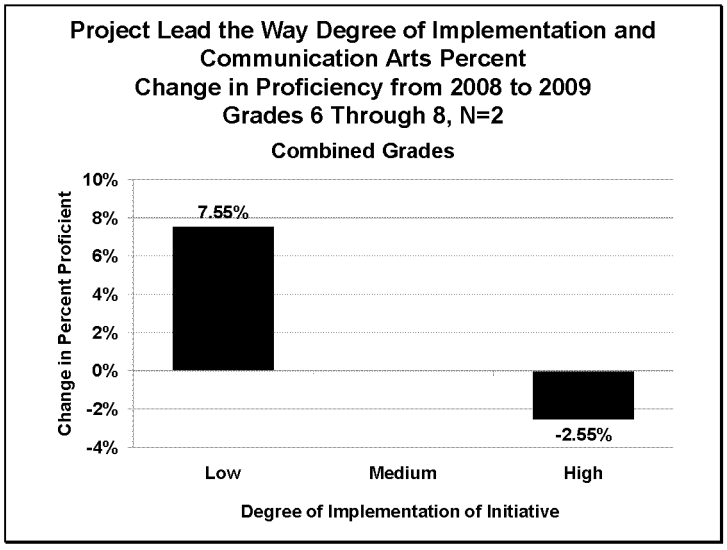


B.13.5 Professional Learning Communities Degree of Implementation and Overall 2009 Average Missouri Performance Index in Math

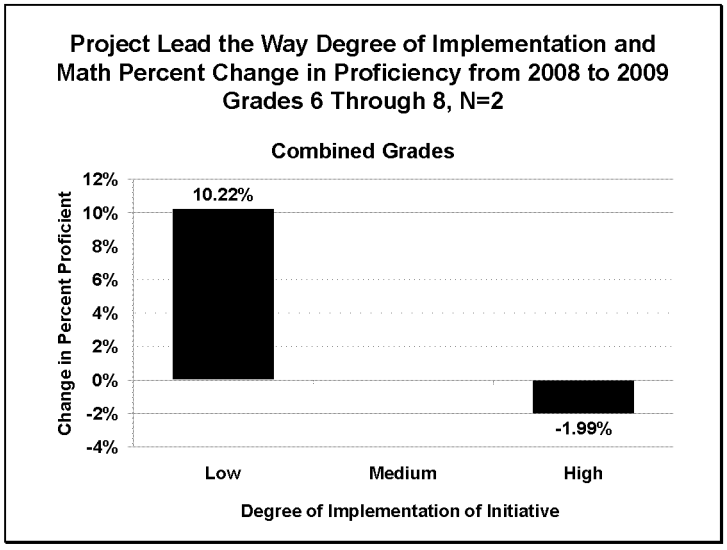


B.13.6 Professional Learning Communities Degree of Implementation and Overall 2009 Average Missouri Performance Index in Science

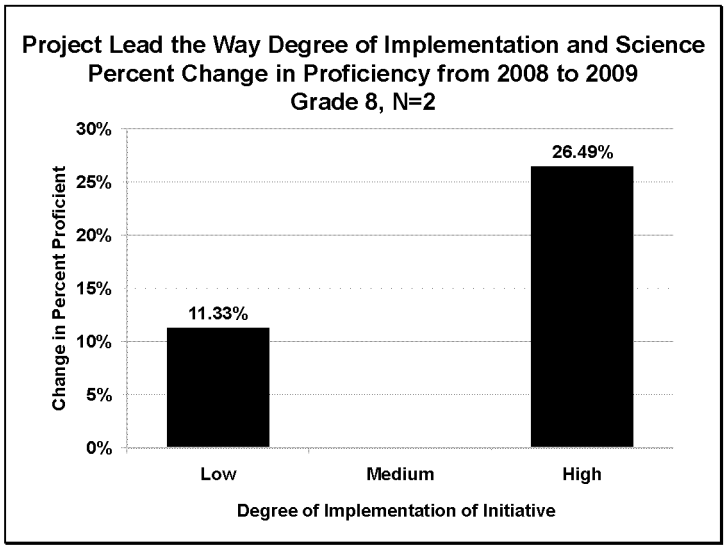
B.14 Project Lead the Way (PLTW)– Grades 6-12



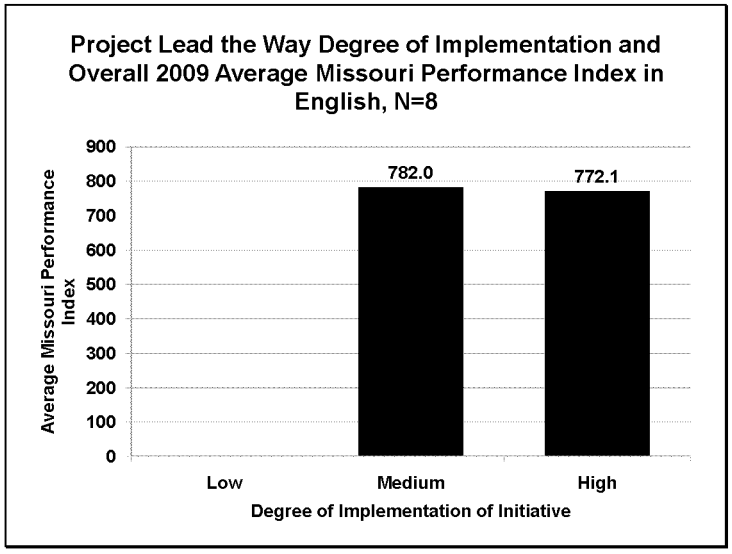
B.14.1 Project Lead the Way Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grades 6 Through 8



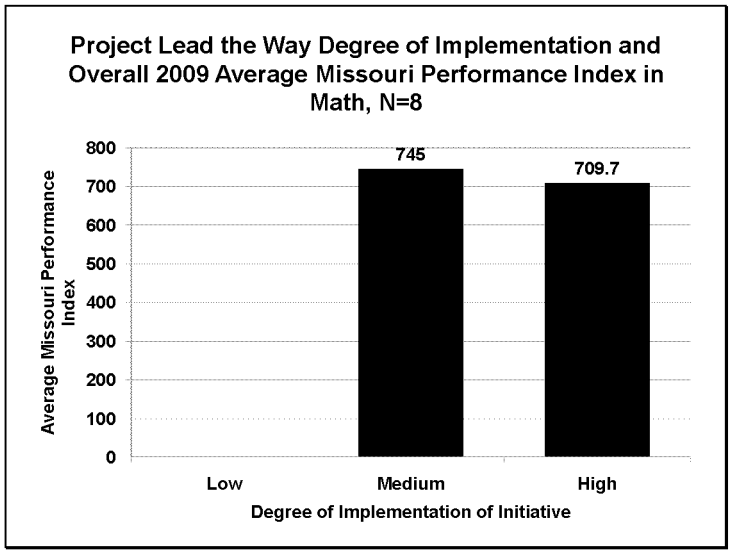
B.14.2 Project Lead the Way Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grades 6 Through 8



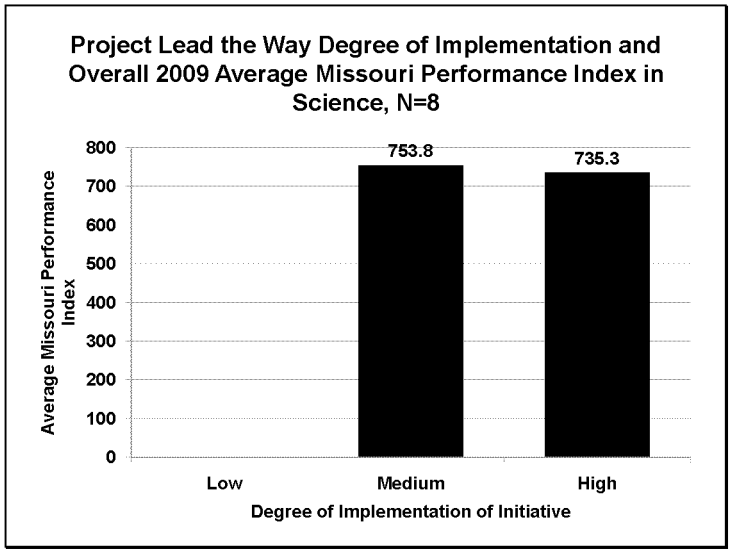
B.14.3 Project Lead the Way Degree of Implementation and Science Percent Change in Proficiency from 2008 to 2009, Grade 8



B.14.4 Project Lead the Way Degree of Implementation and Overall 2009 Missouri Performance Index in English

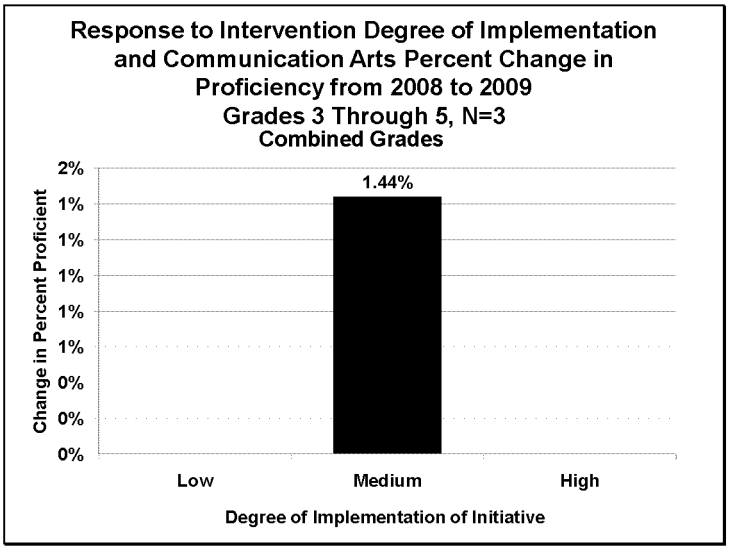


B.14.5 Project Lead the Way Degree of Implementation and Overall 2009 Missouri Performance Index in Math

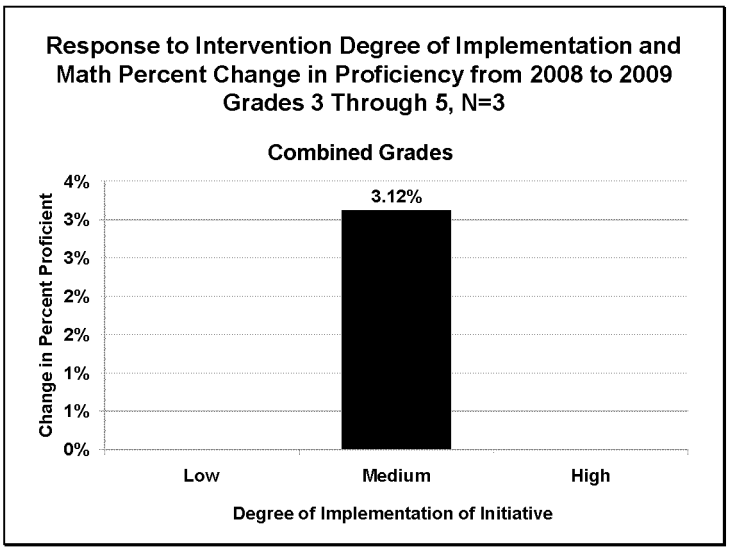


B.14.6 Project Lead the Way Degree of Implementation and Overall 2009 Missouri Performance Index in Science

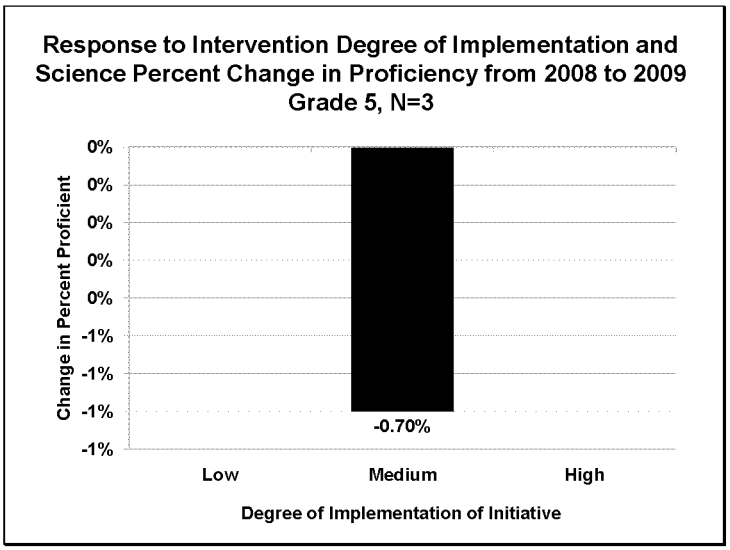
B.15 Response to Intervention (RTI)– Grades 3-5



B.15.1 Response to Intervention Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grades 3 Through 5



B.15.2 Response to Intervention Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grades 3 Through 5

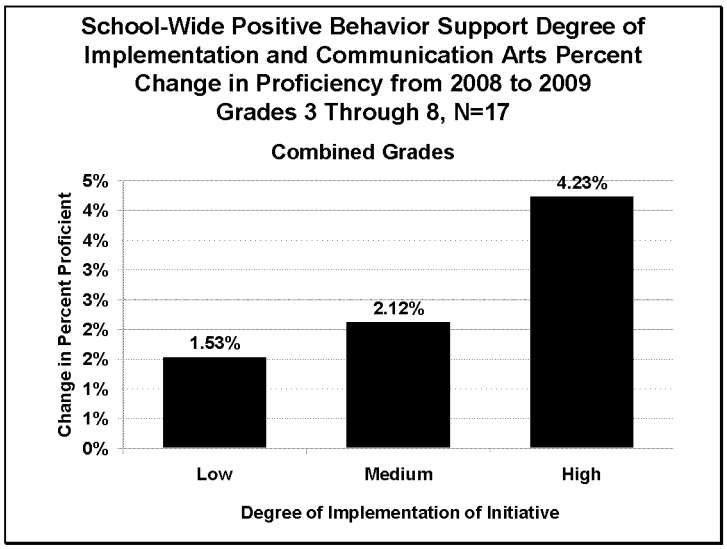


B.15.3 Response to Intervention Degree of Implementation and Science Percent Change in Proficiency from 2008 to 2009, Grade 5

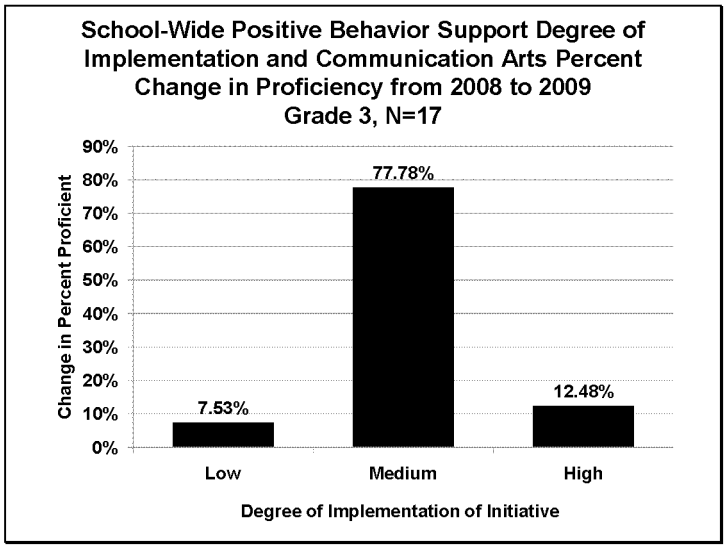
B.16 Satellite Academy Program (SAP)– not charted; see Appendix A

B.17 School Administrator Manager (SAM)– not charted; see Appendix A

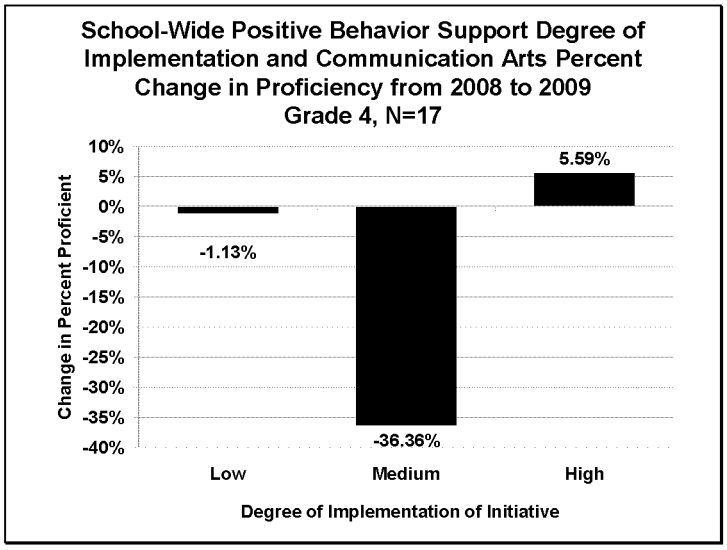
B.18 School-Wide Positive Behavior Support (SWPBS)– Grades 3-12



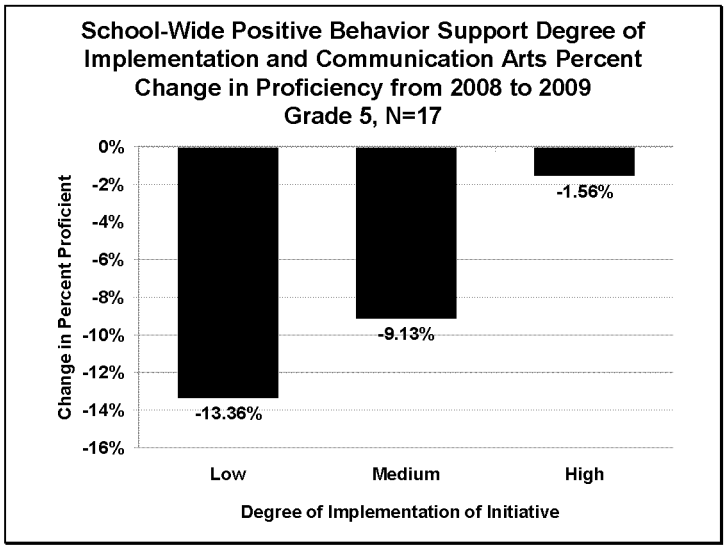
B.18.1 School-Wide Positive Behavior Support Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009, Grades 3 Through 8



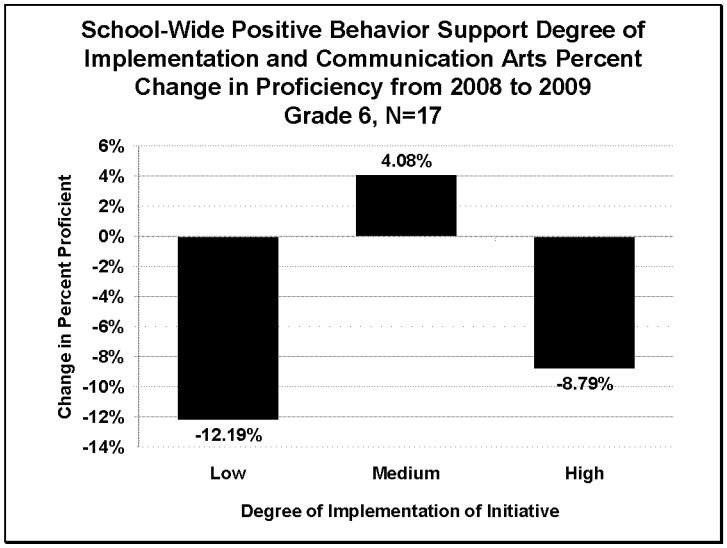
B.18.1.1 School-Wide Positive Behavior Support Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 3



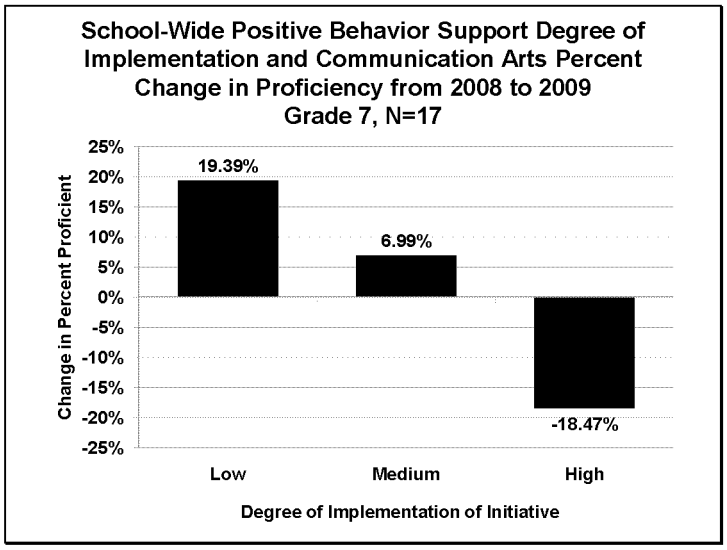
B.18.1.2 School-Wide Positive Behavior Support Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 4



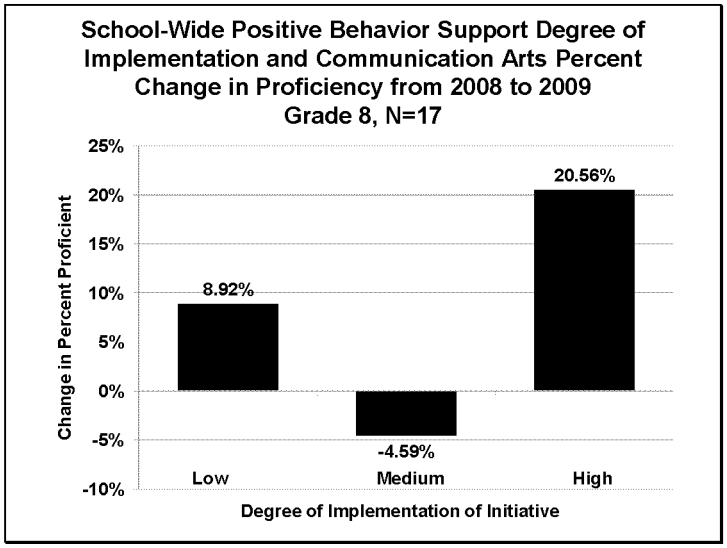
B.18.1.3 School-Wide Positive Behavior Support Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 5



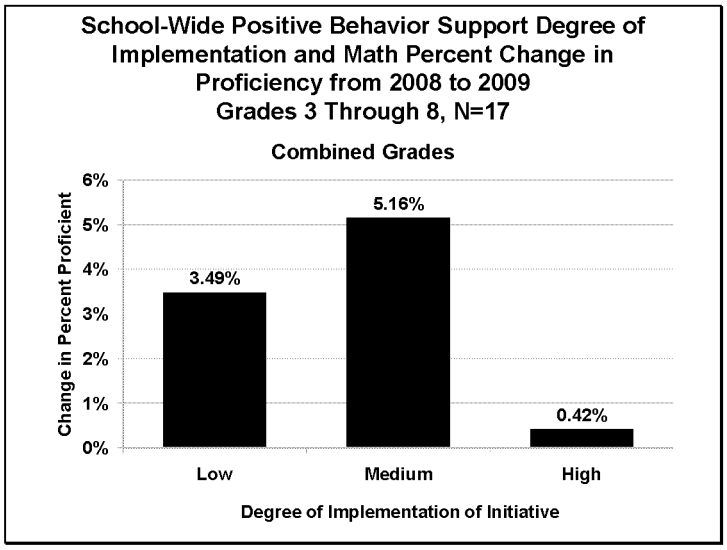
B.18.1.4 School-Wide Positive Behavior Support Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 6



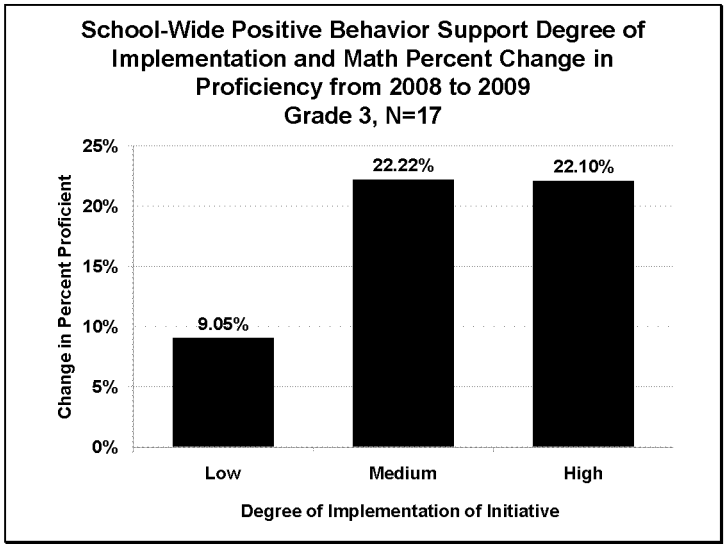
B.18.1.5 School-Fide Positive Behavior Support Degree of Implementation and Communication Arts Percent Change in Proficiency by Grade Level from 2008 to 2009, Grade 7



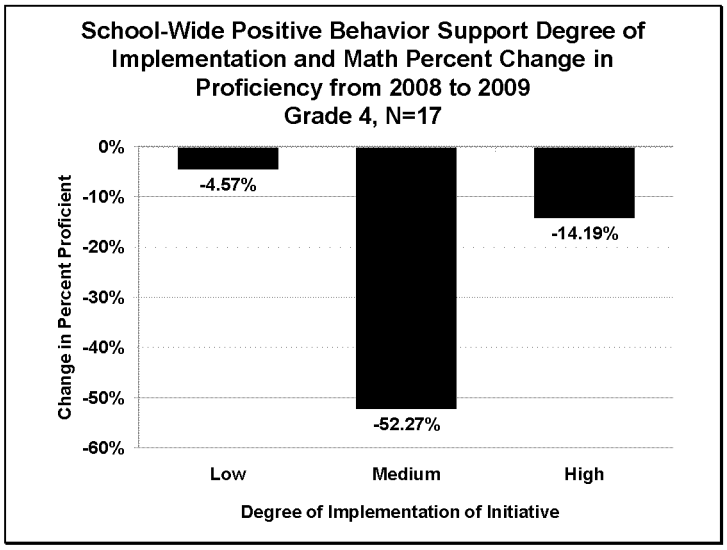
B.18.1.6 School-Wide Positive Behavior Support Degree of Implementation and Communication Arts Percent Change in Proficiency from 2008 to 2009, Grade 8



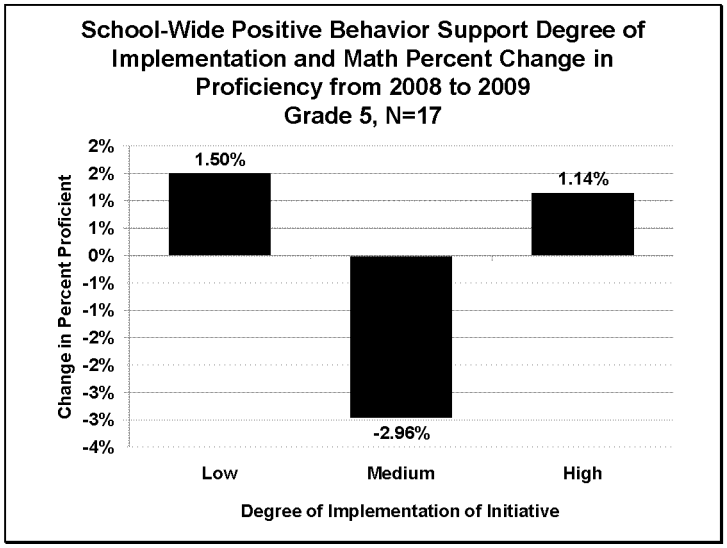
B.18.2 School-Wide Positive Behavior Support Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grades 3 Through 8



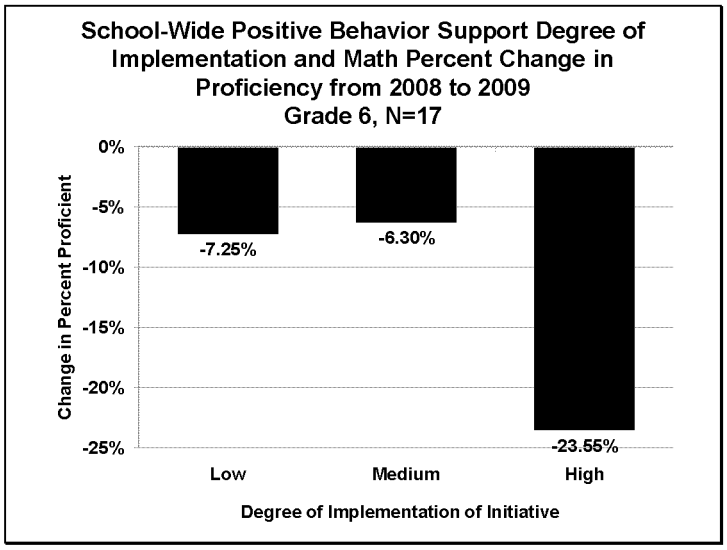
B.18.2.1 School-Wide Positive Behavior Support Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 3



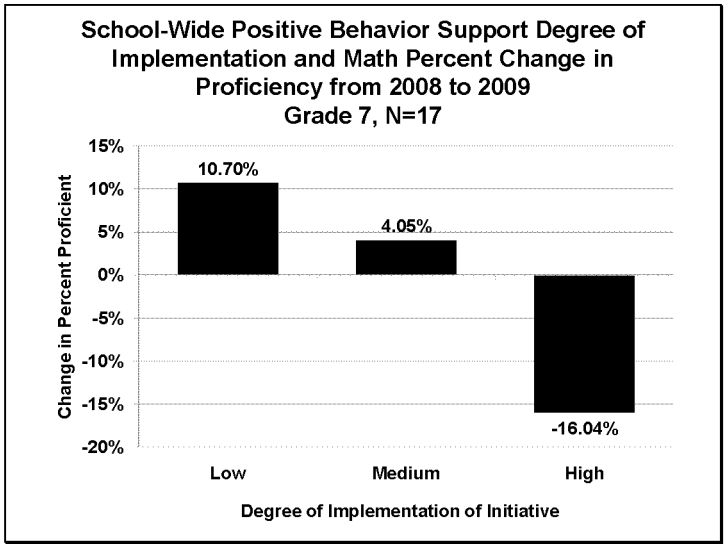
B.18.2.2 School-Wide Positive Behavior Support Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 4



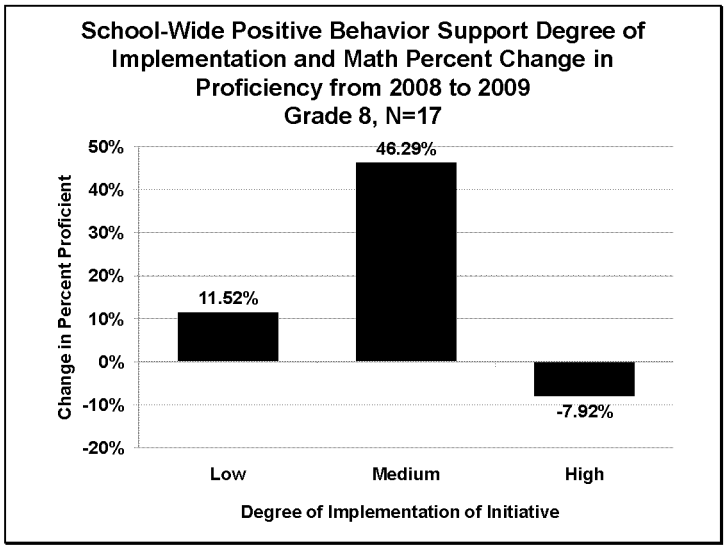
B.18.2.3 School-Wide Positive Behavior Support Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 5



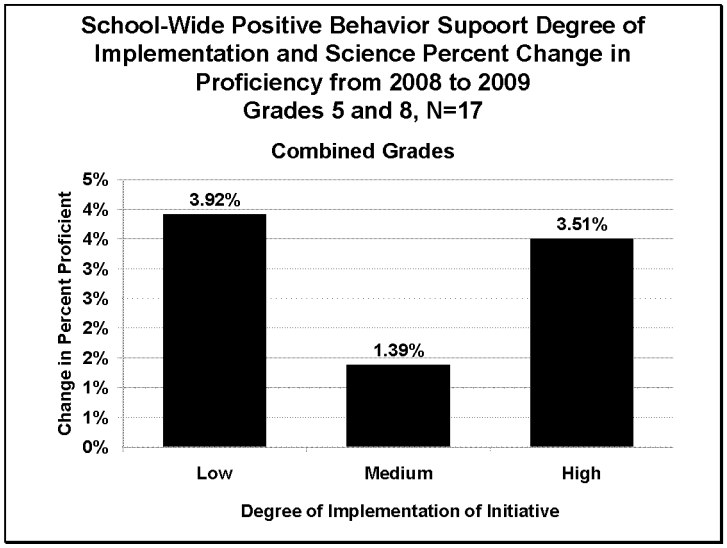
B.18.2.4 School-Wide Positive Behavior Support Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 6



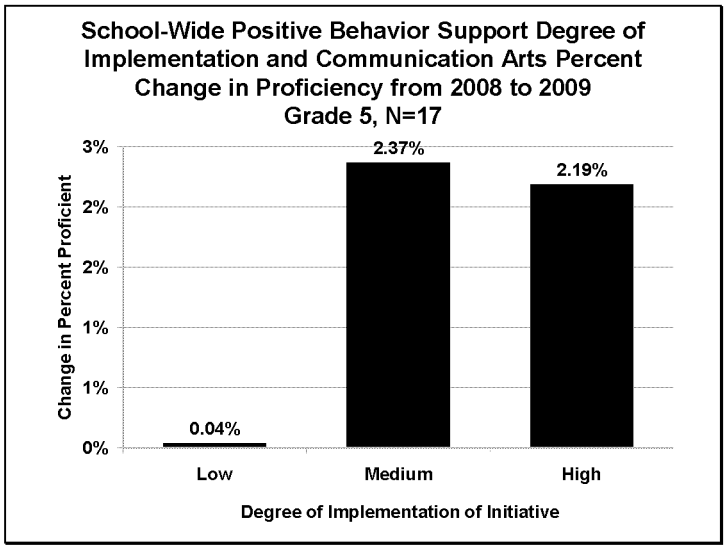
B.18.2.5 School-Wide Positive Behavior Support Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 7



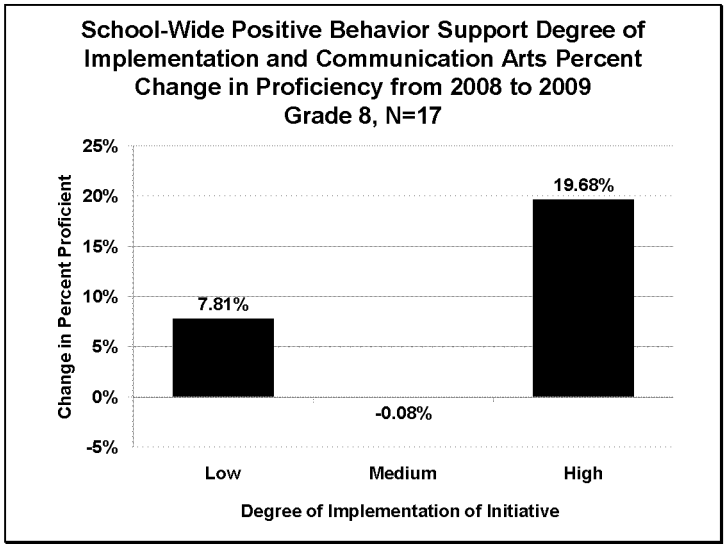
B.18.2.6 School-Wide Positive Behavior Support Degree of Implementation and Math Percent Change in Proficiency from 2008 to 2009, Grade 8



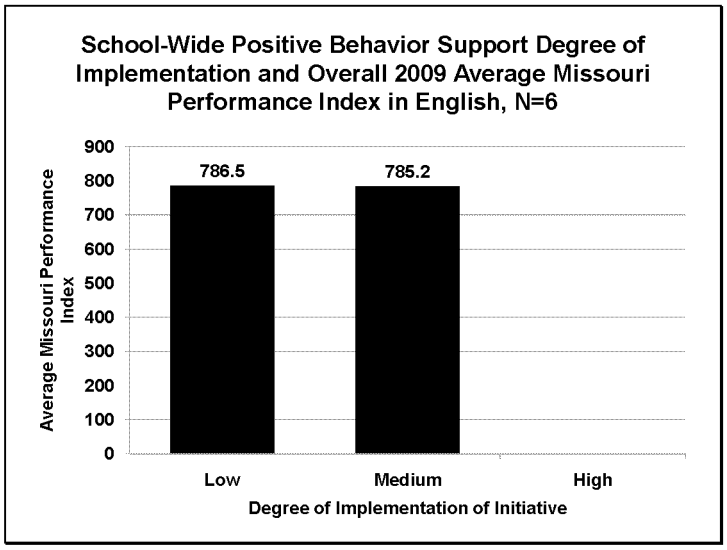
B.18.3 School-Wide Positive Behavior Support Degree of Implementation and Science Percent Change in Proficiency from 2008 to 2009, Grades 5 and 8



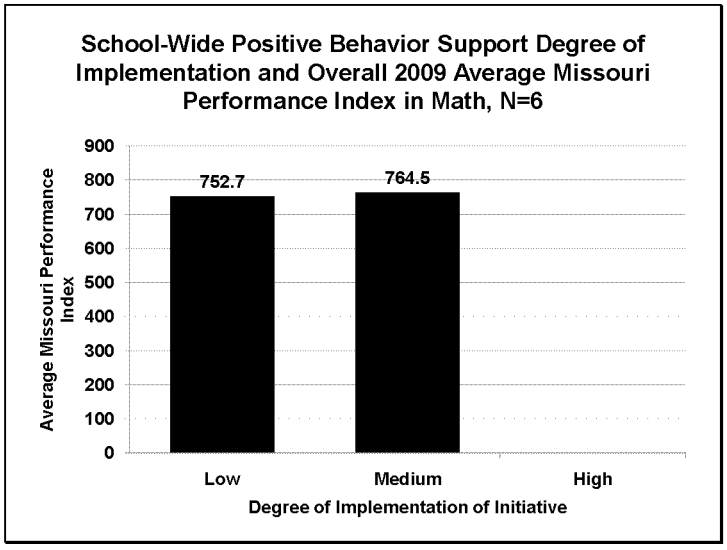
B.18.3.1 School-Wide Positive Behavior Support Degree of Implementation and Science Percent Change in Proficiency from 2008 to 2009, Grade 5



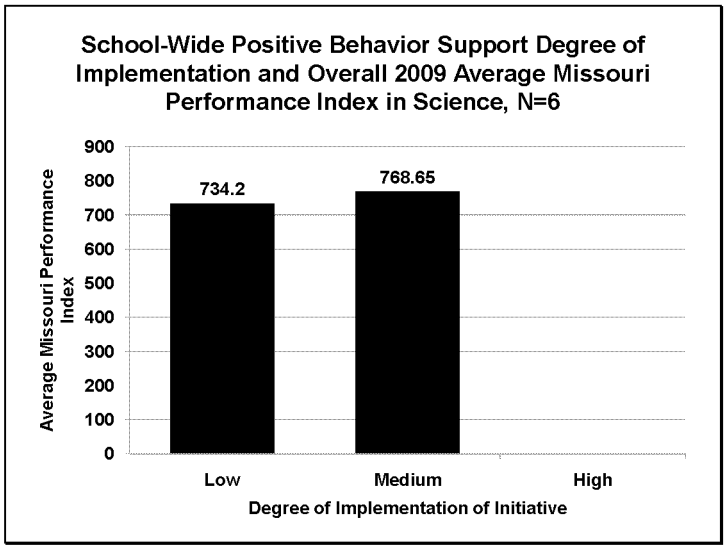
B.18.3.2 School-Wide Positive Behavior Support Degree of Implementation and Science Percent Change in Proficiency from 2008 to 2009, Grade 8



B.18.4 School-Wide Positive Behavior Support Degree of Implementation and Overall 2009 Average Missouri Performance Index in English



B.18.5 School-Wide Positive Behavior Support Degree of Implementation and Overall 2009 Average Missouri Performance Index in Math



B.18.6 School-Wide Positive Behavior Support Degree of Implementation and Overall 2009 Average Missouri Performance Index in Science

B.19 Technology Centers that Work (TCTW)– not charted; see Appendix A

Appendix C

Missouri Department of Education Implementation Audit™

Implementation Audit Survey Results

C.1 Participation Response Summary

The **Implementation Audit™ Degree of Implementation Survey** was conducted from February 22 through March 17, 2010.

Specifically, this survey contains information on 19 initiatives from randomly sampled schools and districts.

Three categories of staff were identified in order to help disaggregate and make meaning of the results of the survey. Participants were asked to reference the following descriptions as they responded.

1. **Teaching Professional**: Grade level teacher, content area teacher, special education teacher, specialist
2. **Building Administrator**: Principal or assistant principal
3. **Central Office Administrator/Program Manager**

The total number of participants who started the survey was 1,680. Of that number, 1,561 participants completed the survey, or 92.8 percent. **Note:** The number of survey respondents for each question (N=) is indicated below each figure.

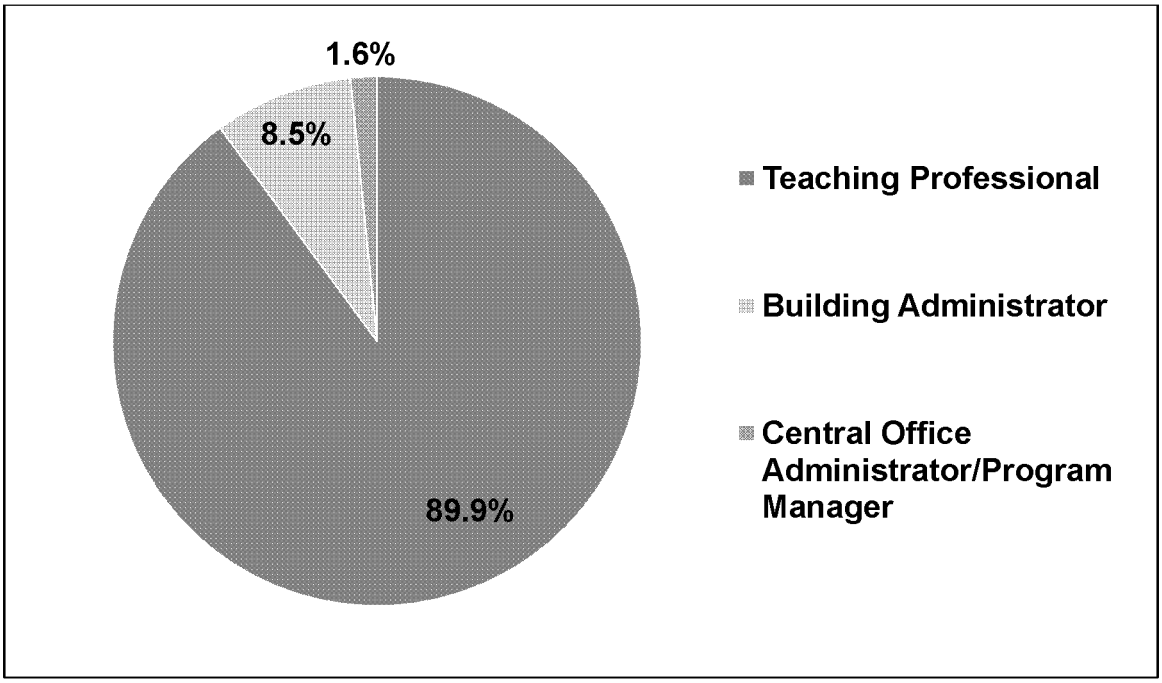


Figure C.1.1 Participation Graph

Respondent Summary

Two hundred schools and fifty districts were randomly selected based on a stratified random sample. Stratification is the process of grouping members of the population into relatively homogeneous subgroups before sampling. We filtered the selection process by grouping schools and districts using grade span, enrollment, and initiatives.

Stratification Samples

Grade Ranges:

- Kindergarten through grade five
- Kindergarten through grade six
- Kindergarten through grade eight
- Kindergarten through grade twelve
- Grade six through grade eight
- Grade nine through grade twelve

Enrollment Ranges:

High Schools	**Less than 1000**	**Greater than 1000**	**Greater than 2000**
Middle School	**Less than 500**	**Greater than 500**	
Elementary Schools	**Less than 500**	**Greater than 500**	

Table C.1.2 Stratification Process for Enrollment

Survey results indicate that of the 200 schools that were randomly selected, 122 schools actually participated in the survey, or 61 percent. Of the 50 districts selected, 29 responded to the survey, or 58 percent. Additionally, 54 respondents neither identified themselves as belonging to a school or district, but participated in the survey.

Participants were directed to read each statement carefully and then use the 1–4 key below to describe their level of agreement:

	1	2	3	4
Level of agreement	**I Strongly Agree** This statement **DESCRIBES** my practice.	**I Agree** This statement **DESCRIBES** my practice.	**I Disagree** This statement **DOES NOT DESCRIBE** my practice.	**I Strongly Disagree** This statement **DOES NOT DESCRIBE** my practice.

Figure C.1.3

C.2 21st Century Community Learning Centers Survey Results

This program supports the creation of community learning centers that provide academic enrichment opportunities during non-school hours for children, particularly students who attend high-poverty and low-performing schools. The program helps students meet state and local student standards in core academic subjects, such as reading and math, and offers literacy and other educational services to the families of participating children.

Figure C.2.1 Question 1

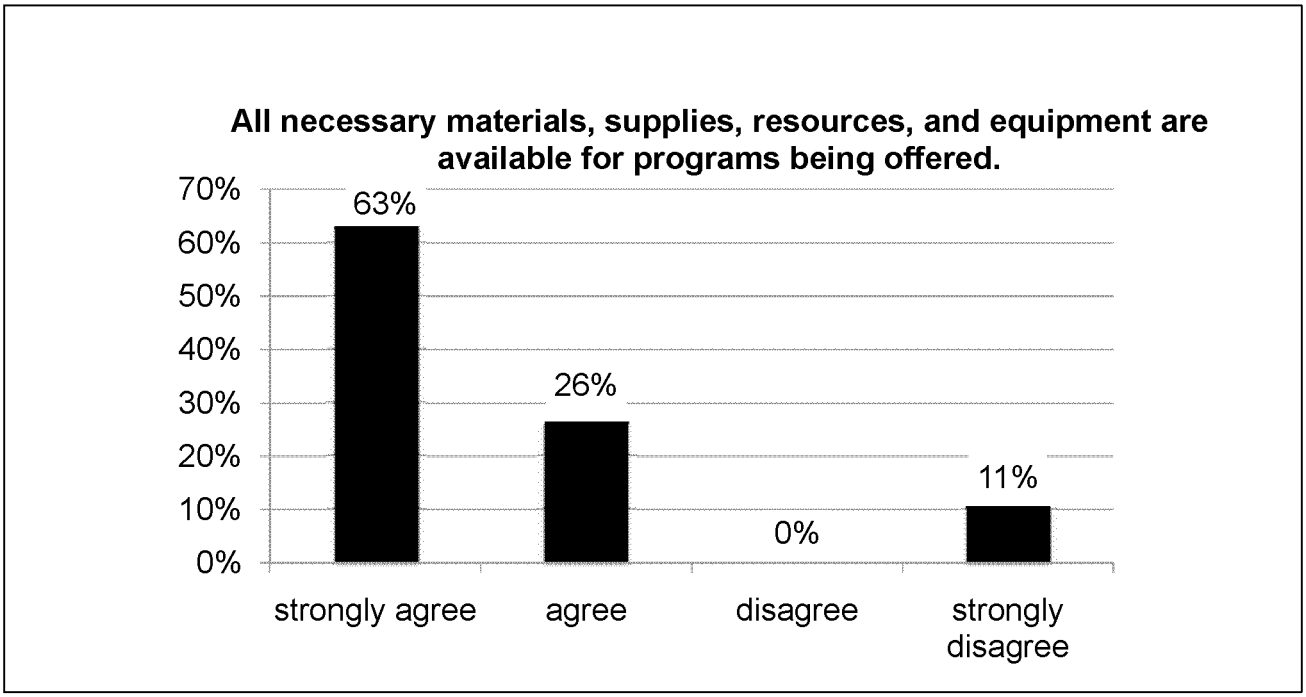


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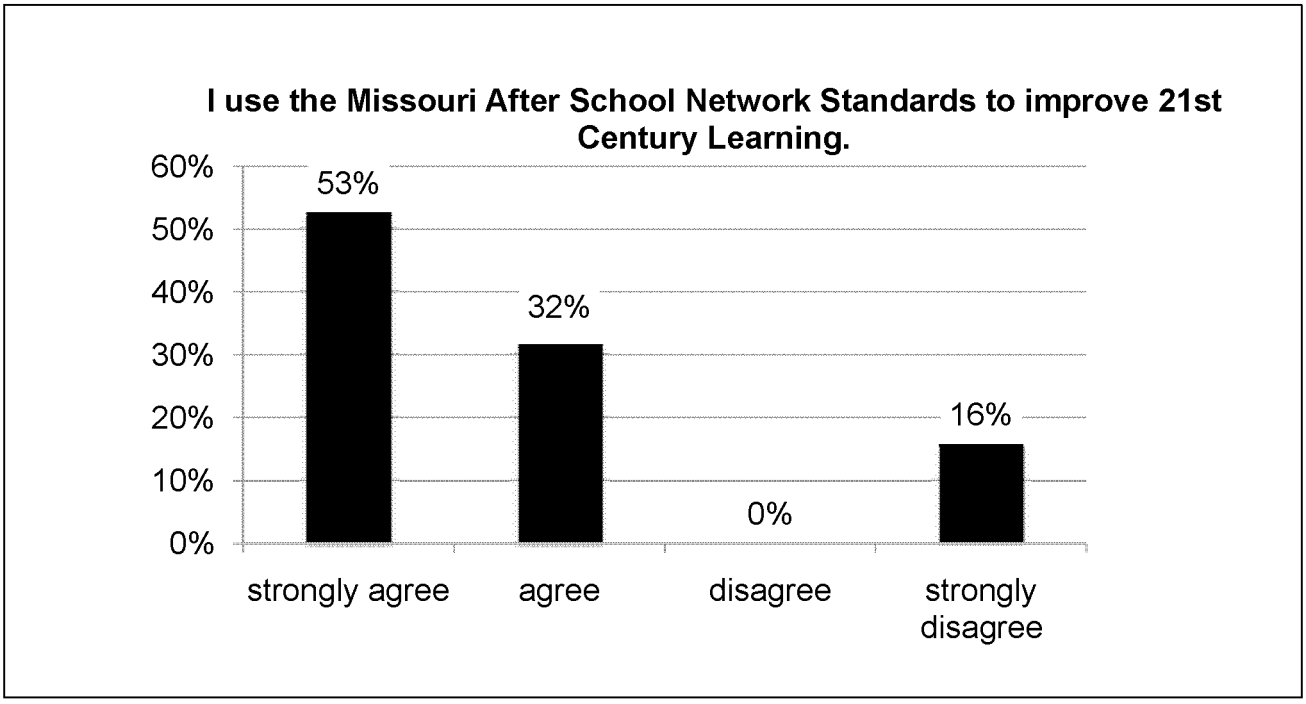
Figure C.2.2 Question 2



(N=19)

Figure C.2.3 Question 3

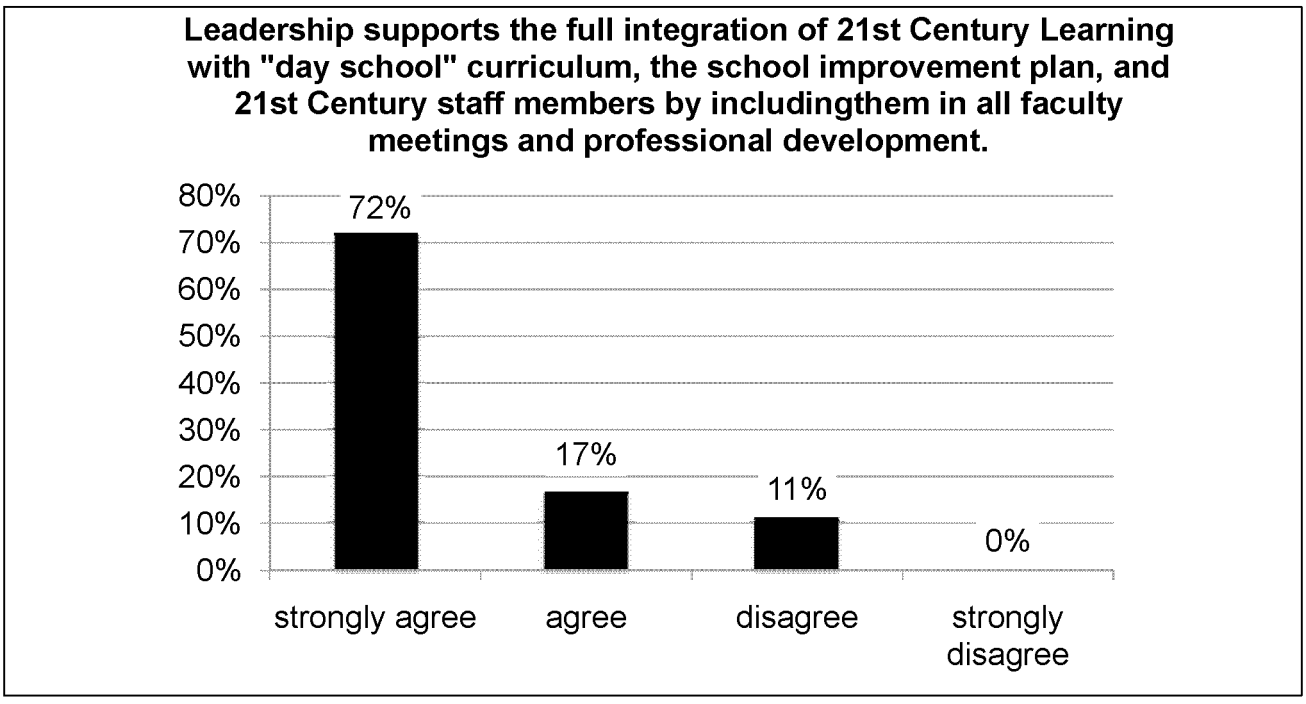


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Figure C.2.4 Question 4

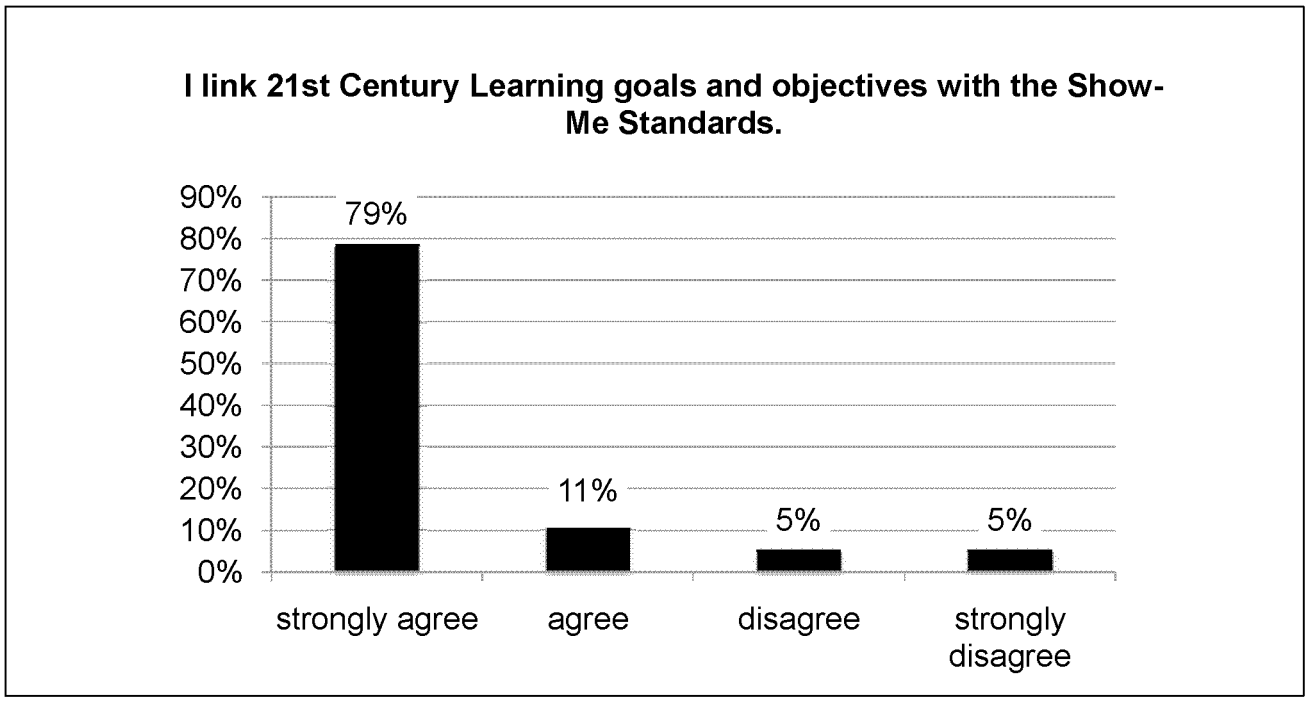

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Figure C.2.5 Question 5

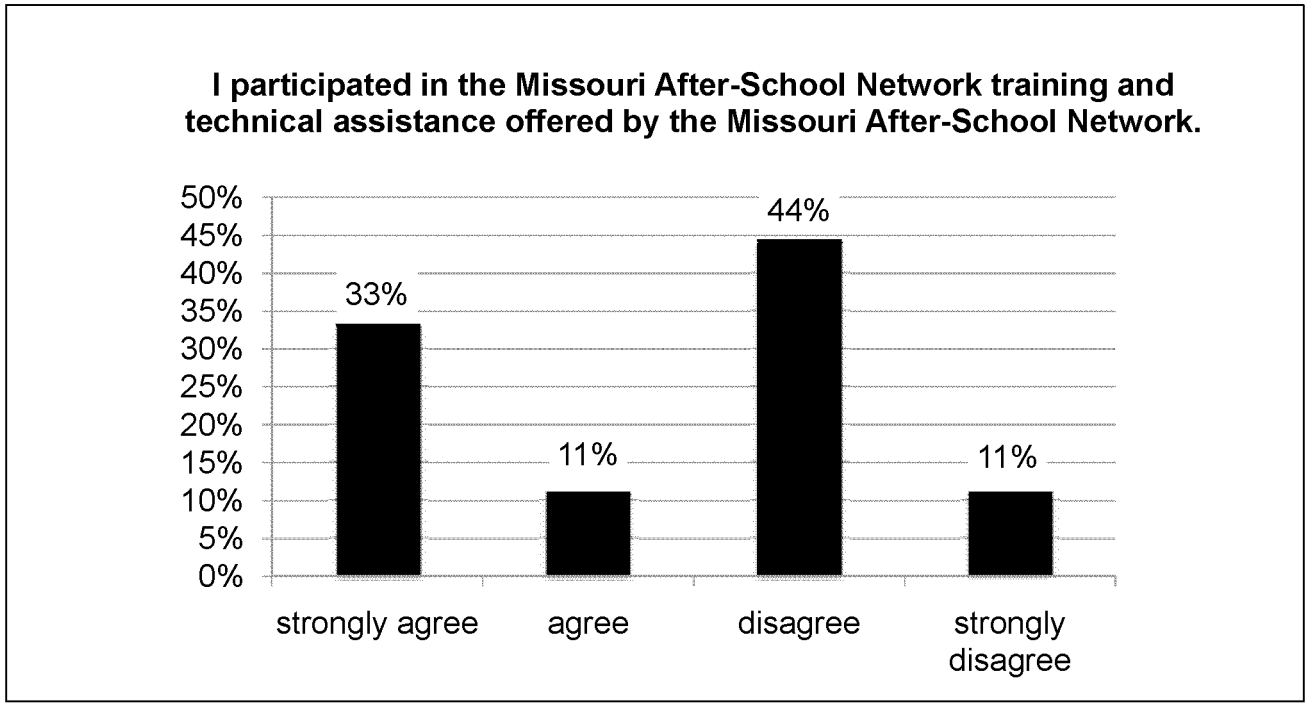

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Figure C.2.6 Question 6

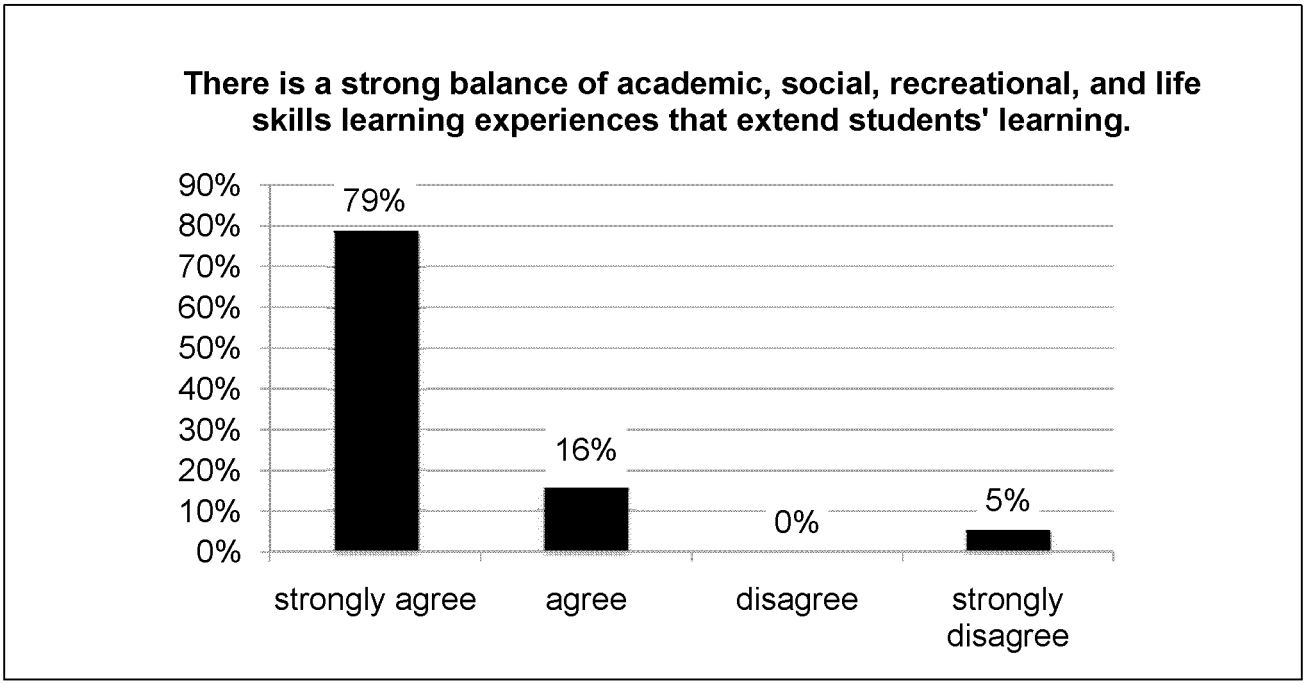

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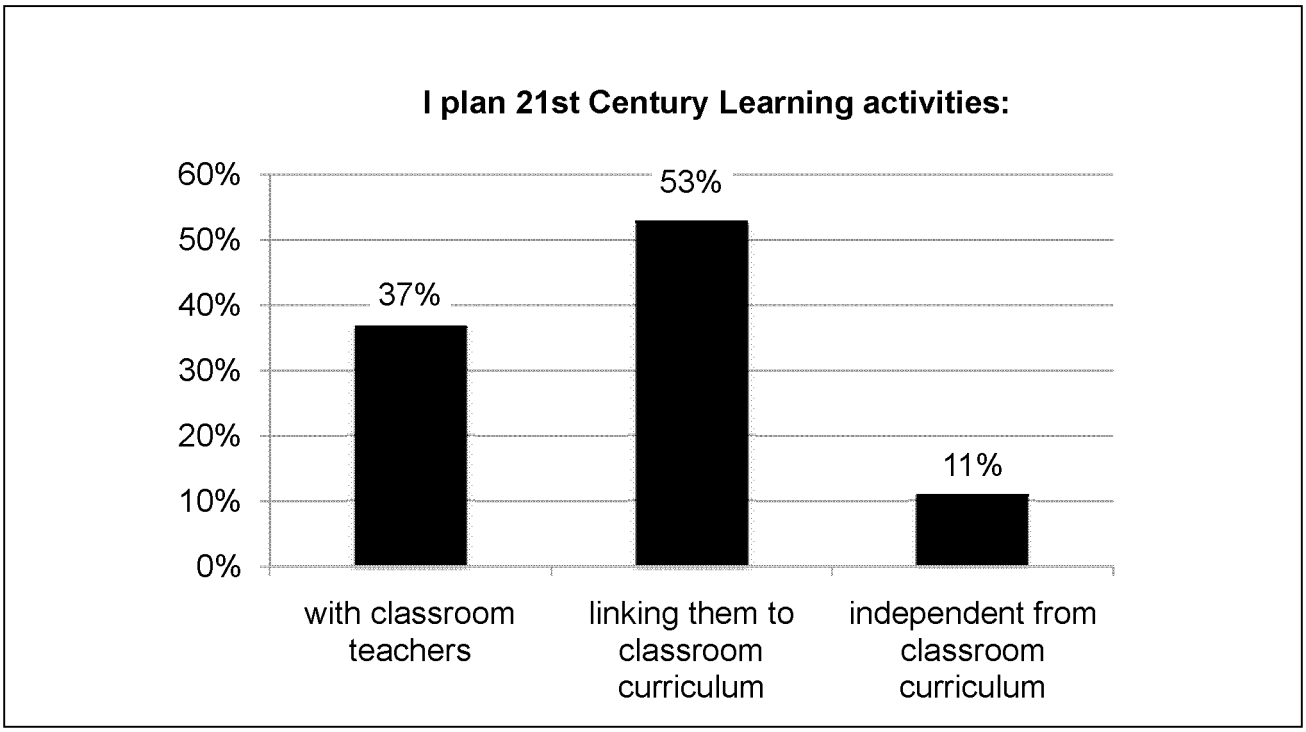
Figure C.2.7 Question 7



(N=19)

C.3 Administrator Mentoring Program Survey Results

This is a statewide mentoring program provided for administrators to comply with an April 2005 certification rule, which requires that administrators receive two years of mentoring. The Administrator Mentoring Program is coordinated by the Leadership Academy at the state Department of Education. The core components include mentors, coordinators and online resources that support the application of leadership behaviors.

There are thirty-seven specific leadership behaviors organized into nine dimensions. Mentors and resources support new leader's growth in these behaviors. Administrators and mentors utilize the Leadership Performance Planning Worksheet created by the New York City Leadership Academy to guide leader growth.

Figure C.3.1 Question 1

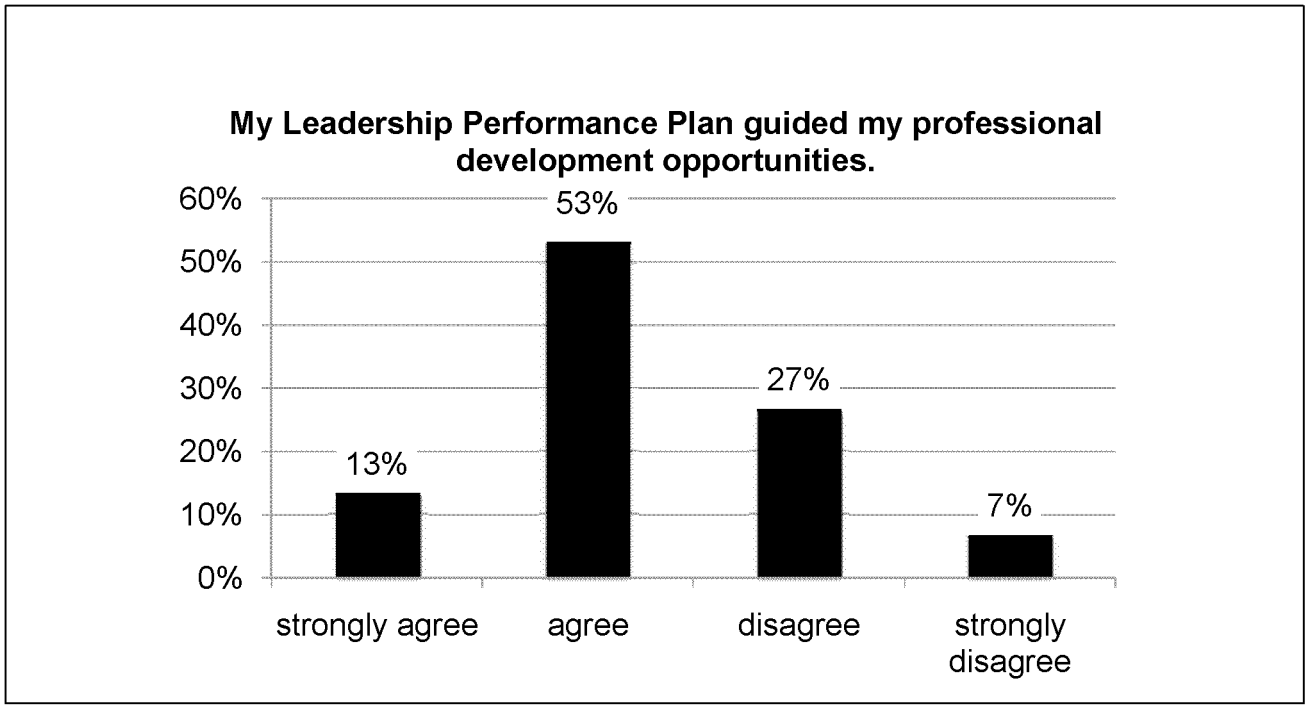


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Figure C.3.2 Question 2

(N=30)

Figure C.3.3 Question 3

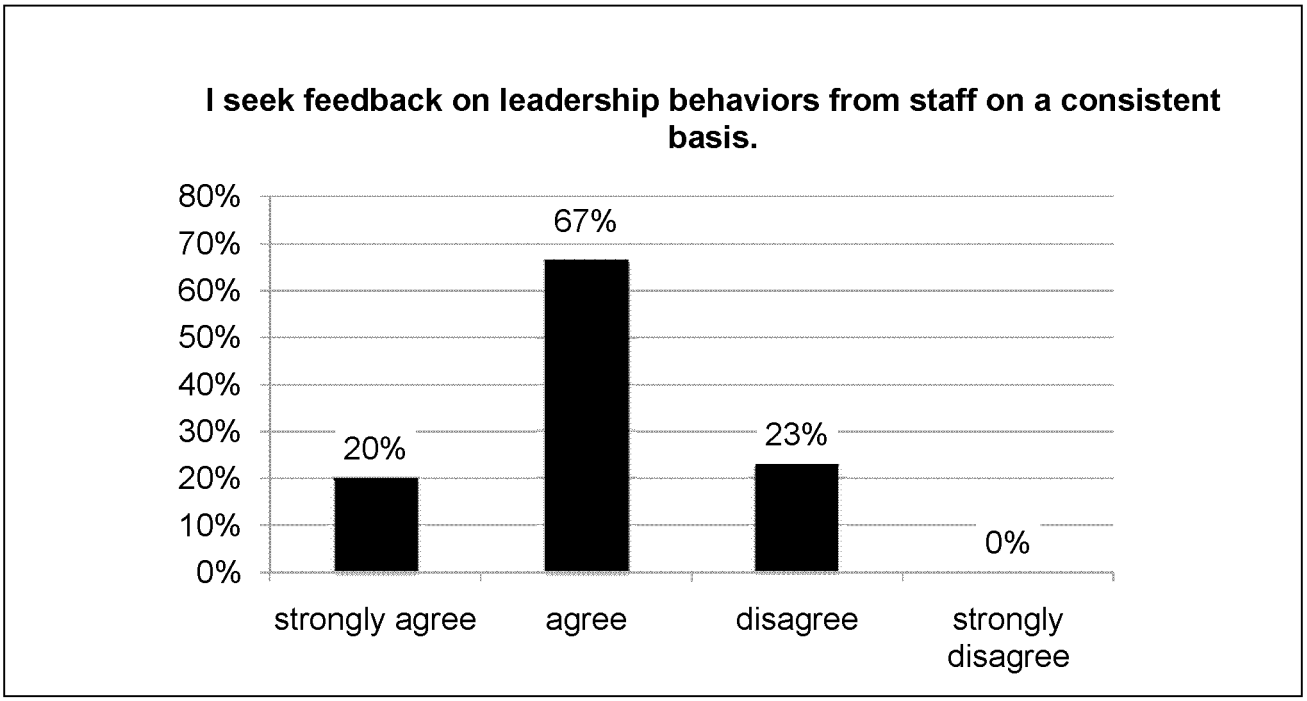

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Figure C.3.4 Question 4

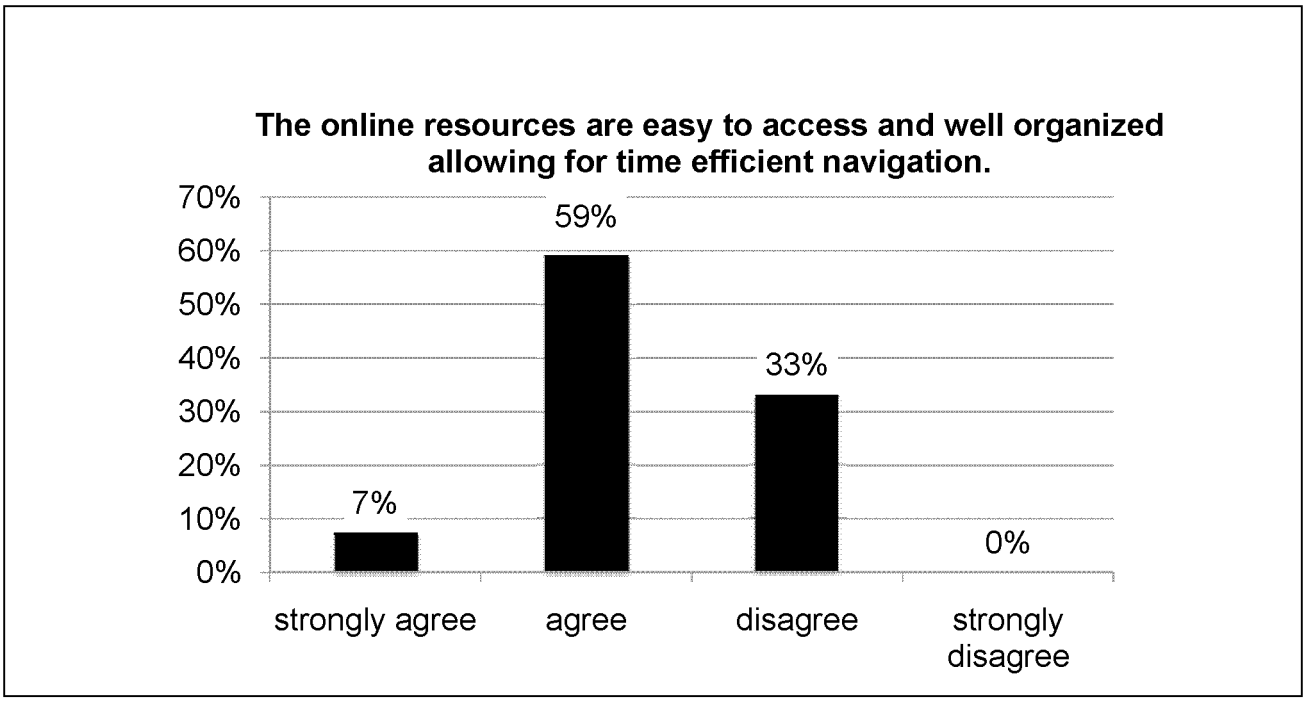

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Figure C.3.5 Question 5

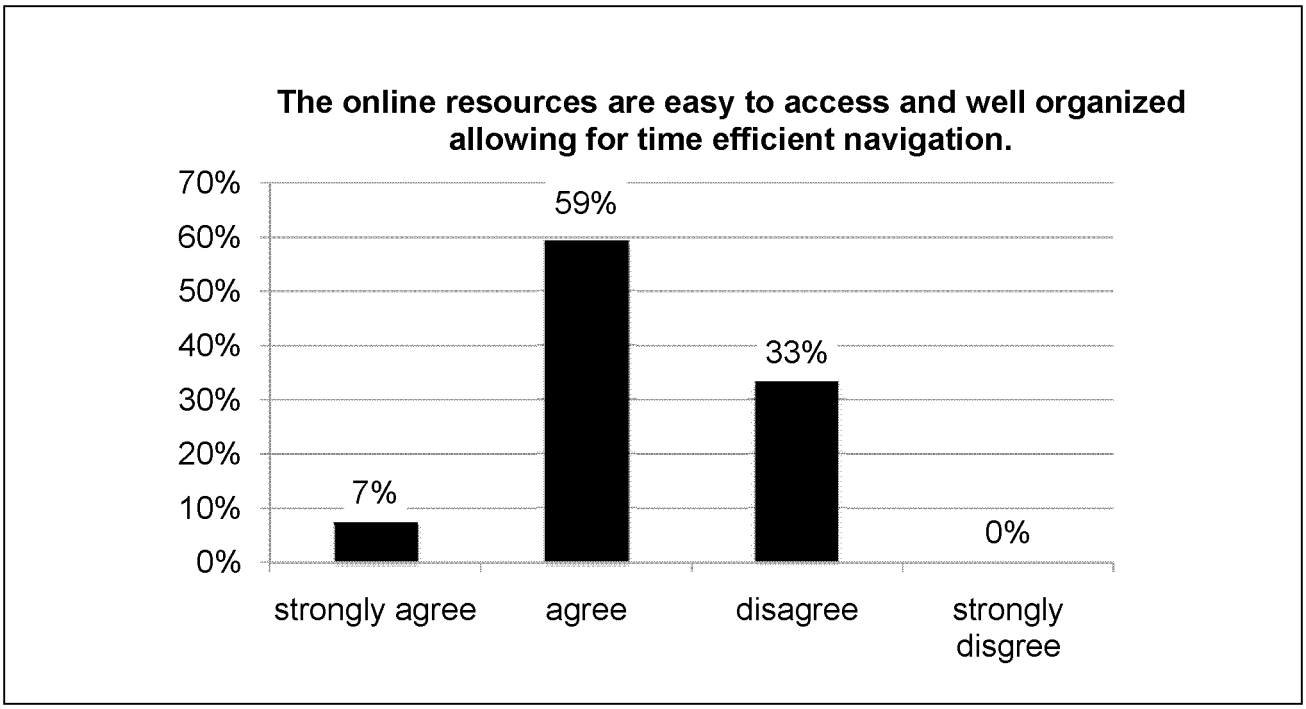

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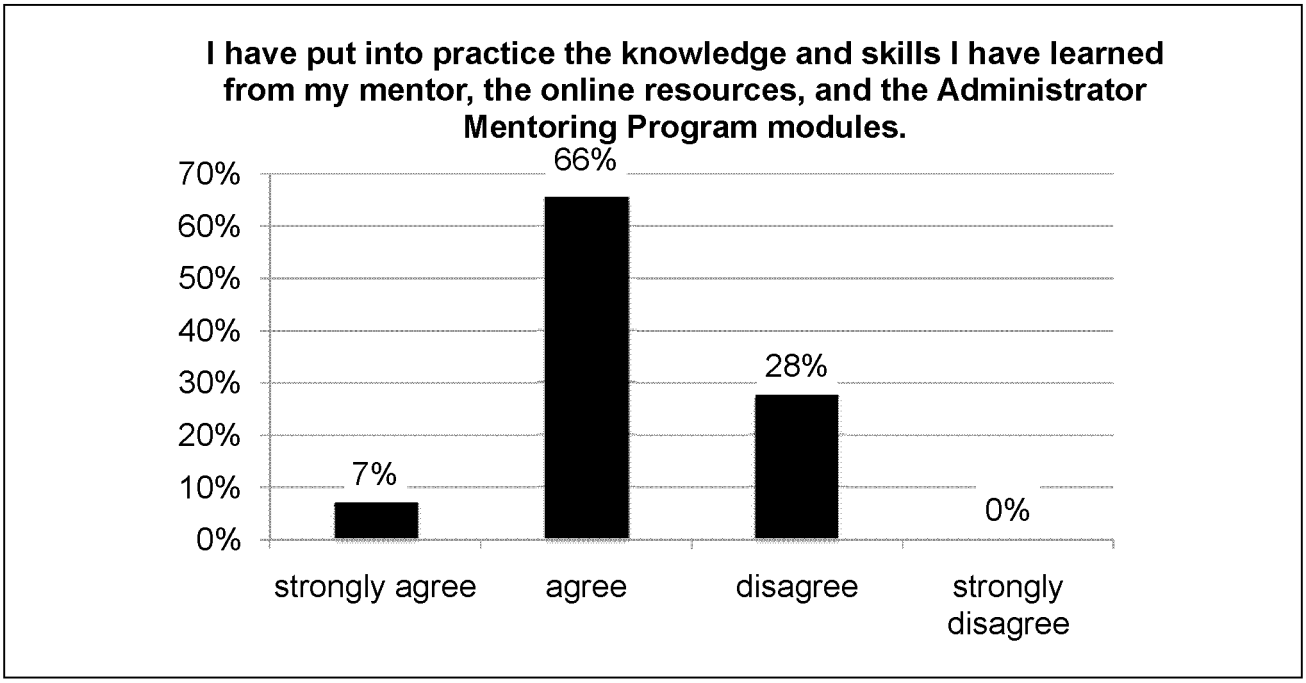
Figure C.3.6 Question 6



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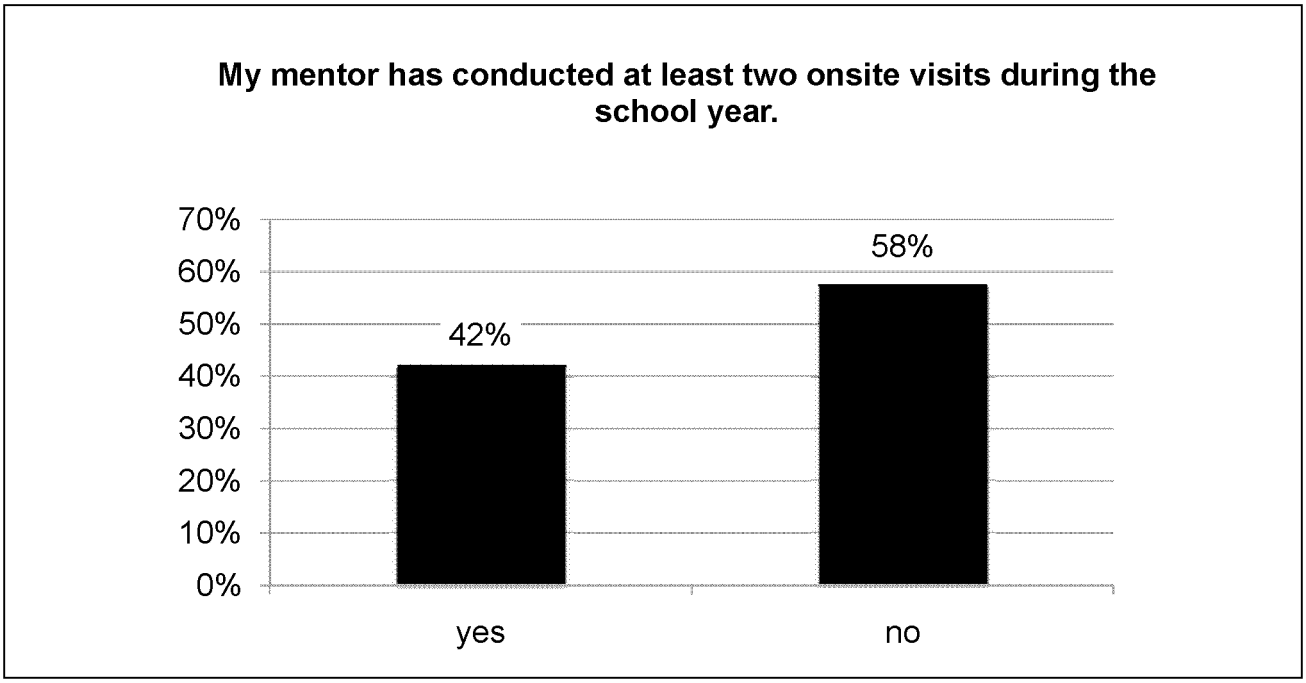

(N=29)

C.4 Career and Technical Student Organizations Survey Results

Career and Technical Student Organizations provide additional opportunities for students to develop and refine the skills required in their chosen occupational area through competitive event programs, community and school activities, student conferences and workshops. The Division of Career Education supports the following Career and Technical Student Organizations: Future Business Leaders of America, Future Farmers of America, Family Career and Community Leaders of America, Health Occupations Students of America, Skills USA, and the Technology Student Association.

Figure C.4.1 Question 1

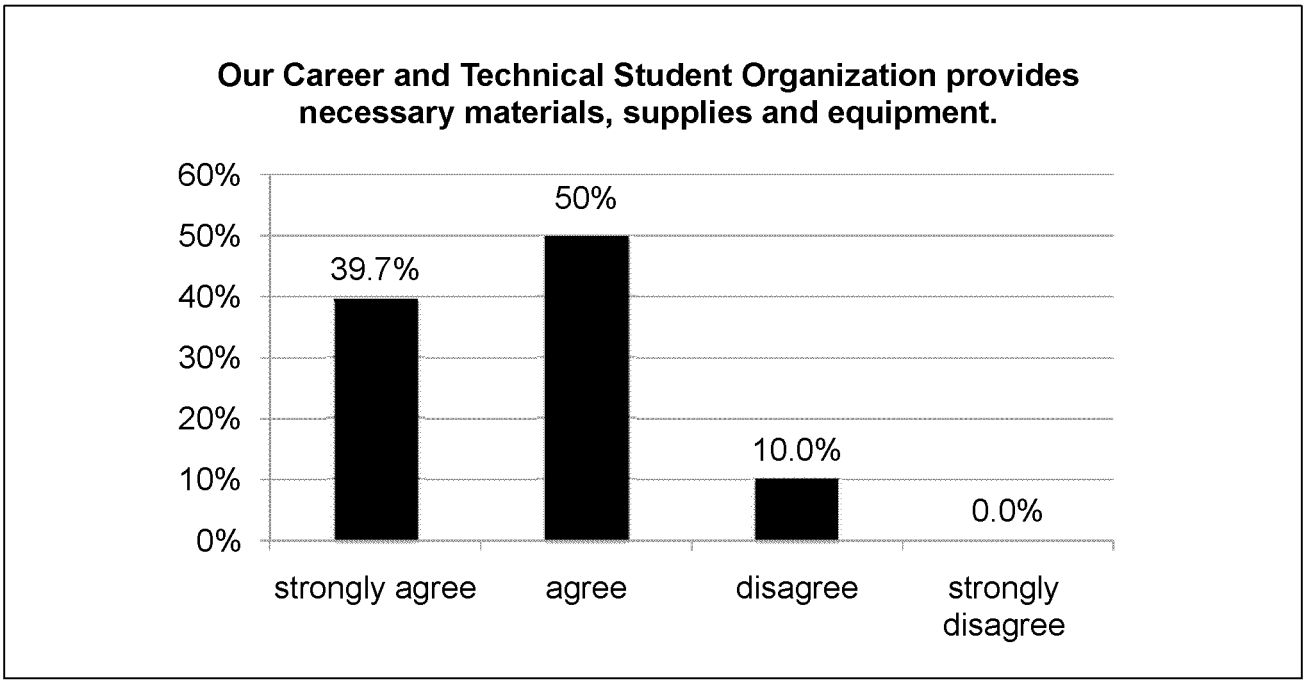

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Figure C.4.2 Question 2

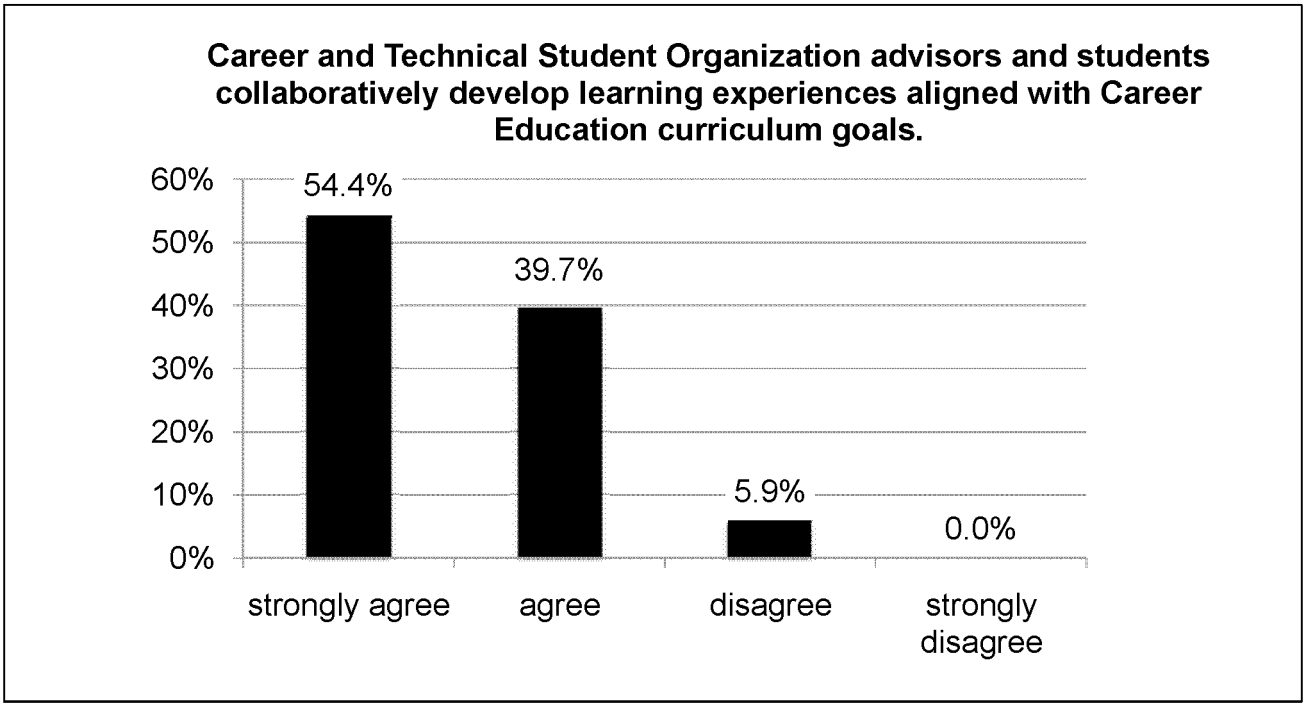

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Figure C.4.3 Question 3

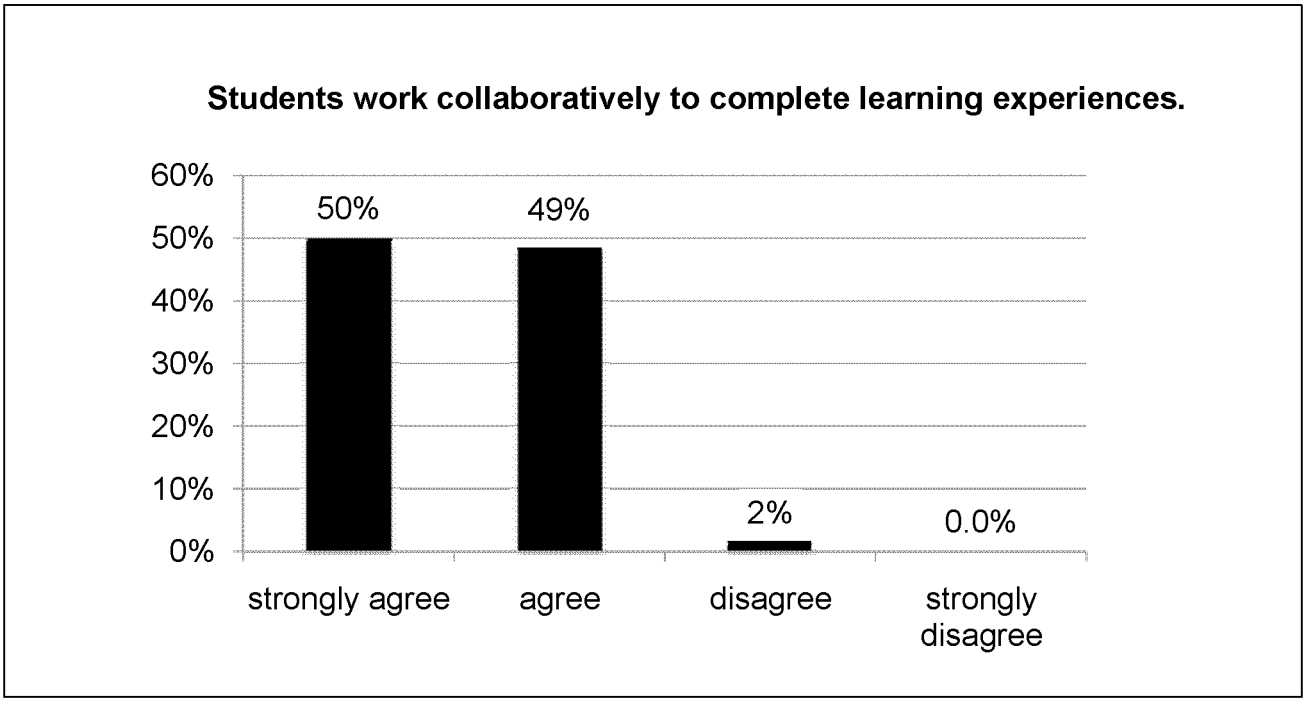

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Figure C.4.4 Question 4

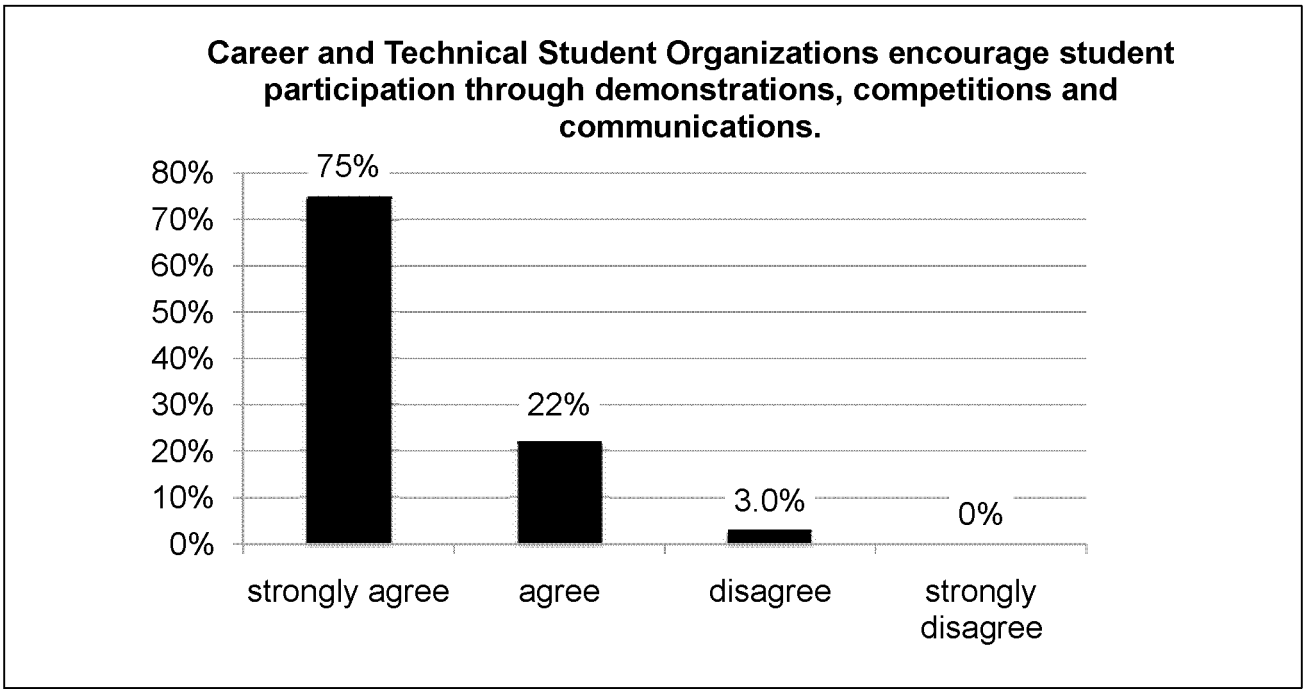

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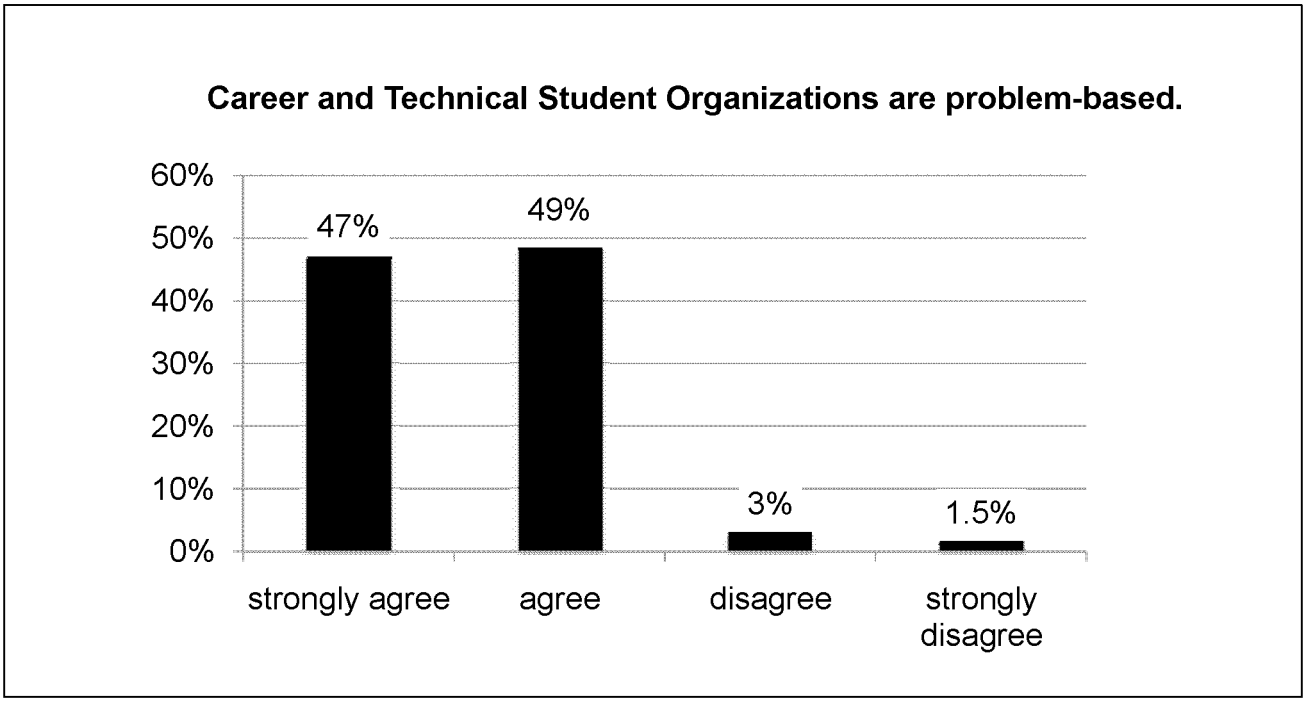
Figure C.4.5 Question 5



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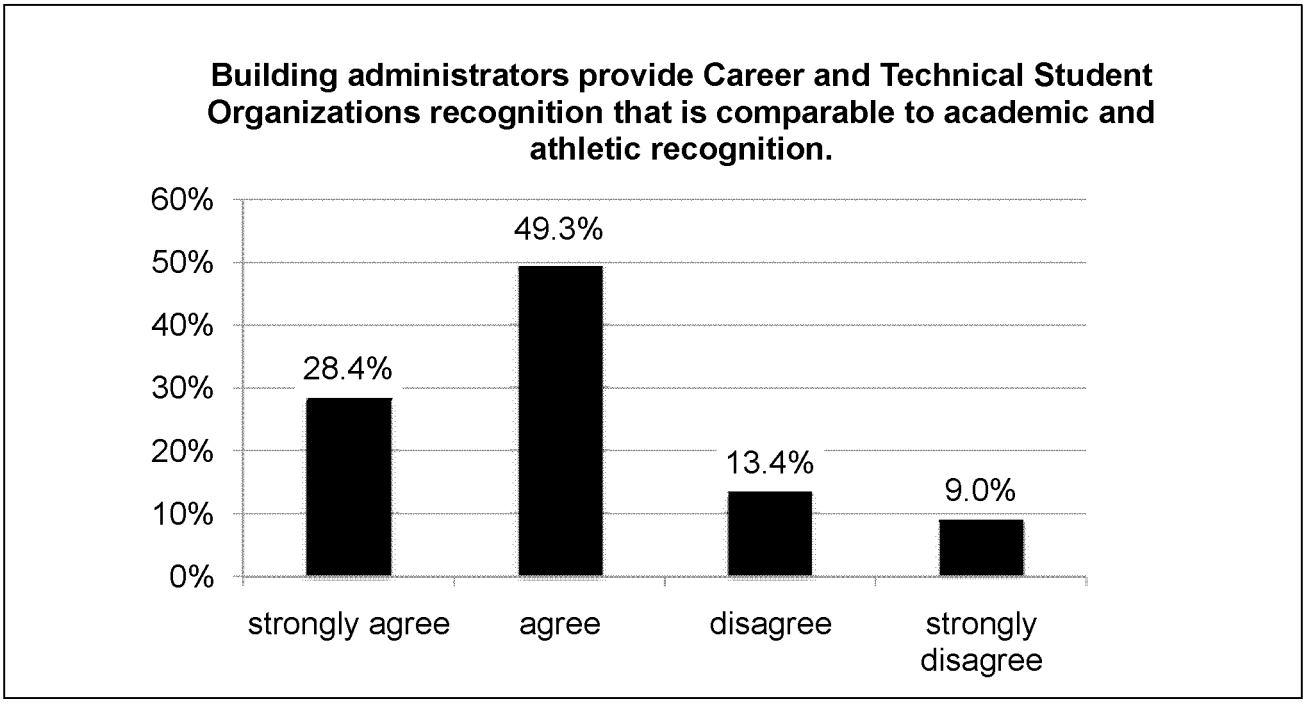

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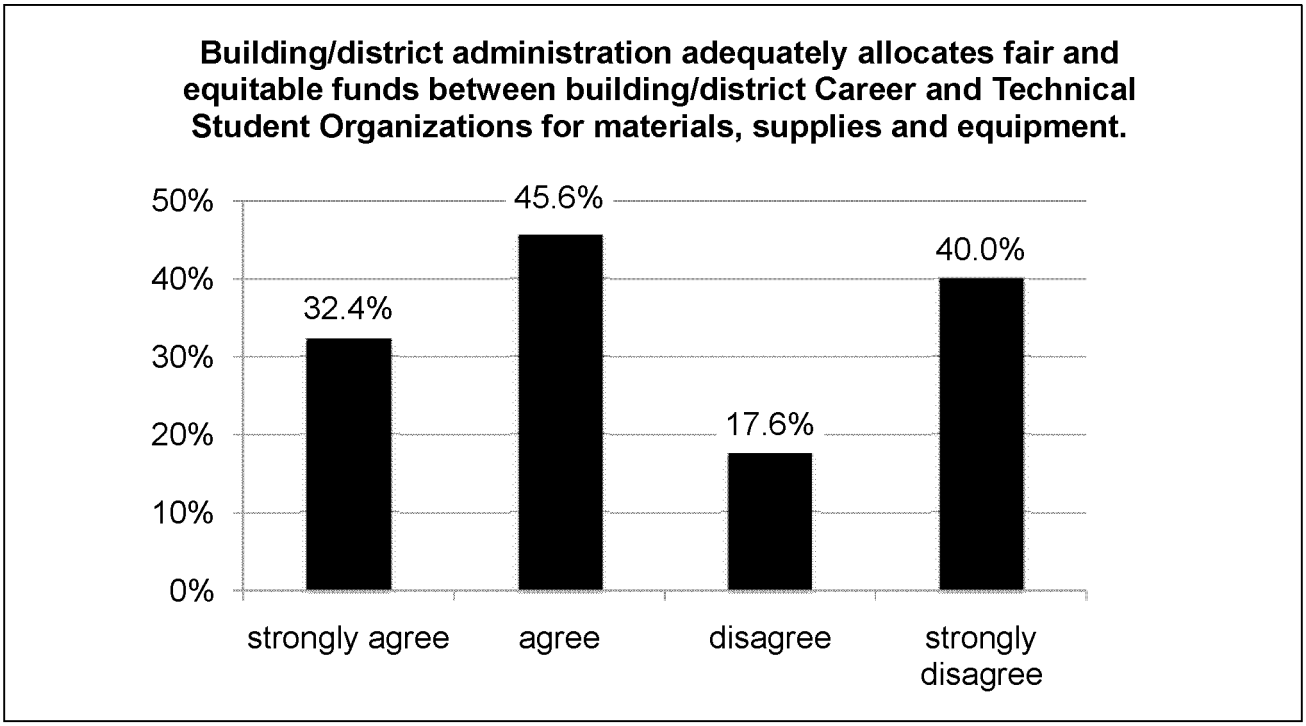
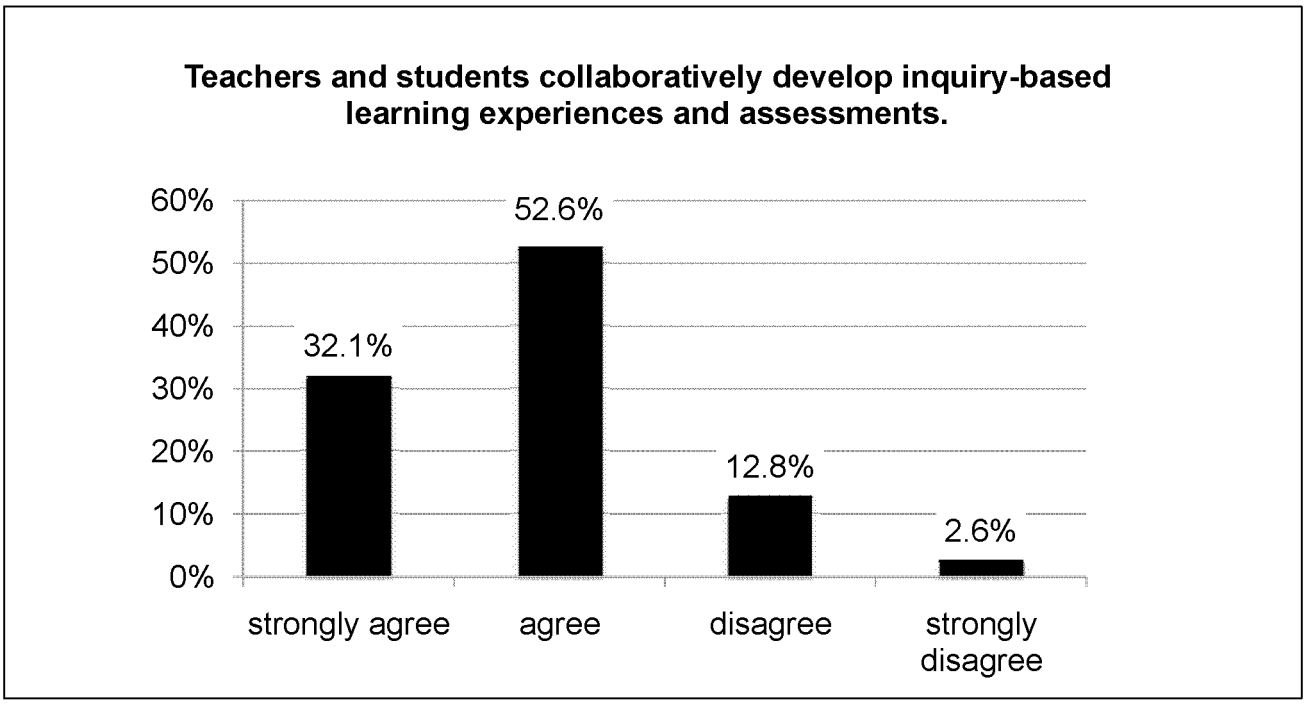


(N=68)

C.5 Enhancing Missouri's Instructional Networked Teaching Strategies Survey Results

Enhancing Missouri's Instructional Networked Teaching Strategies offers intensive two-year professional development programs to help meet the demand for teaching and learning that challenges and stimulates students as they use technology tools to acquire knowledge and skills for the 21st century. This instructional model provides a research-based approach to organizing instruction that enables teachers to create classrooms where all students are motivated to succeed socially and academically. There is an enthusiastic effort to fully incorporate technology investments into teaching and learning while complementing existing curriculum with critical-thinking requirements found in national, state, and local curriculum standards.

Figure C.5.1 Question 1



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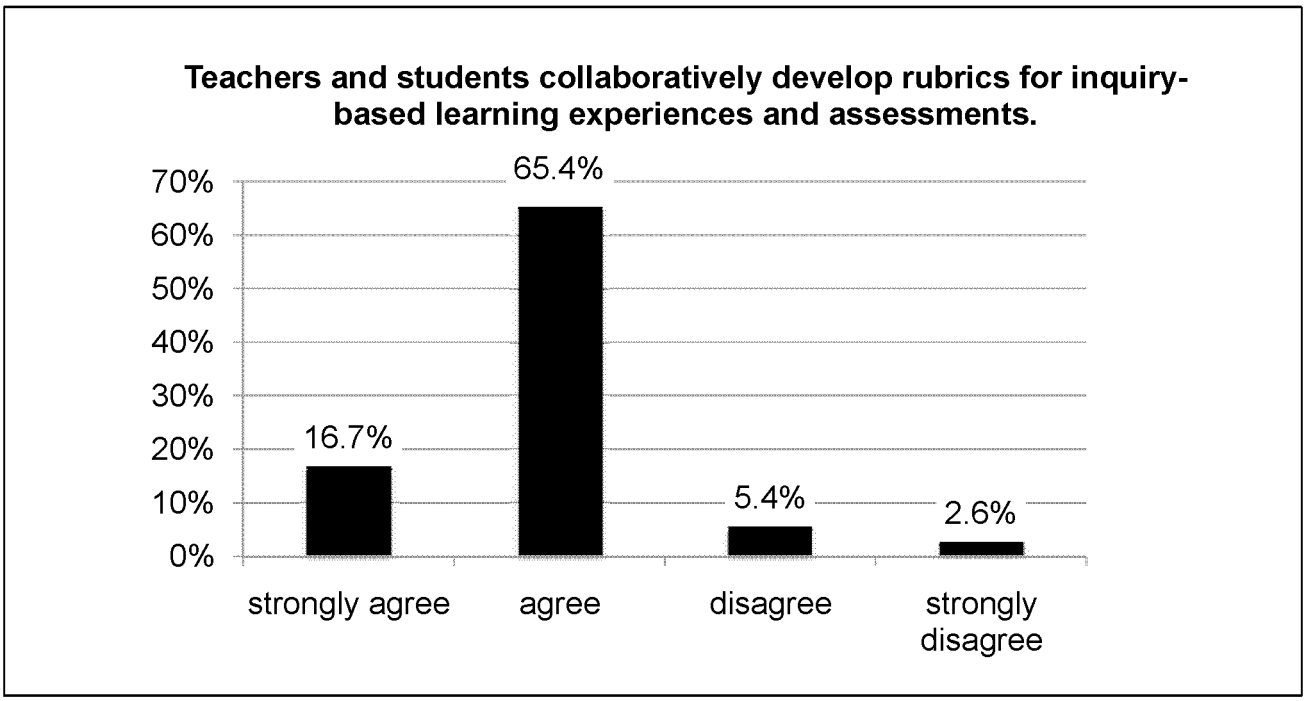

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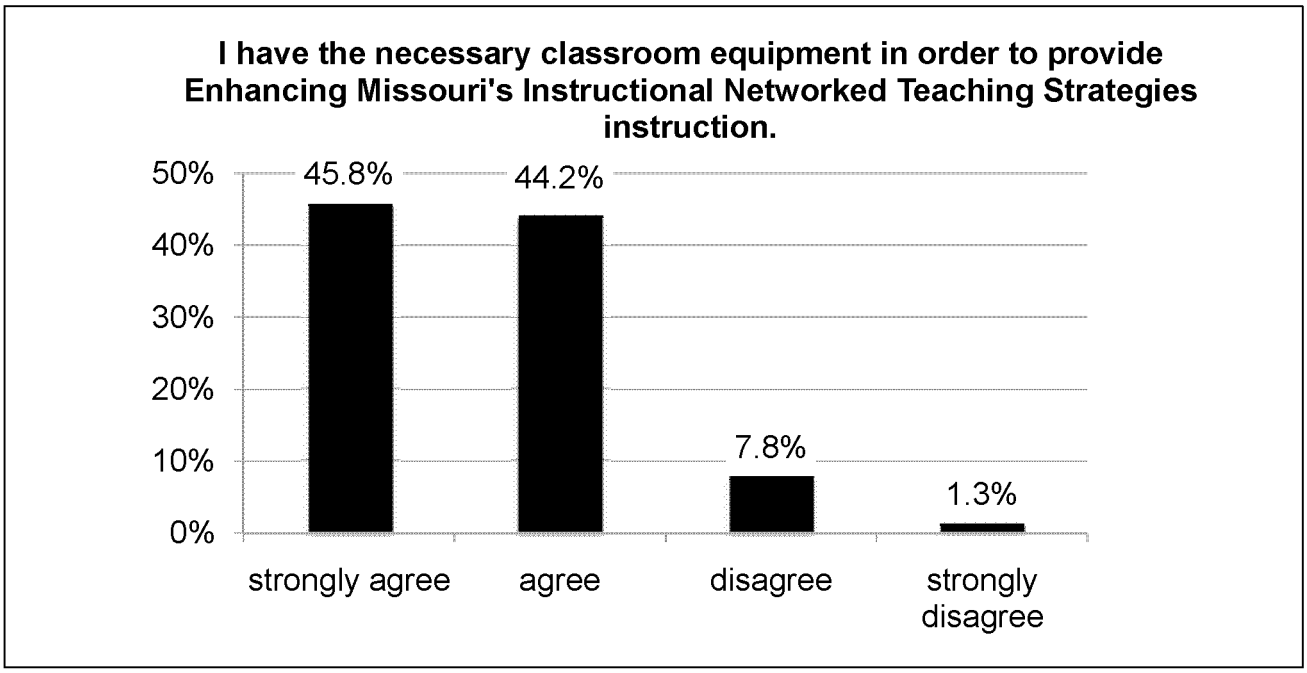

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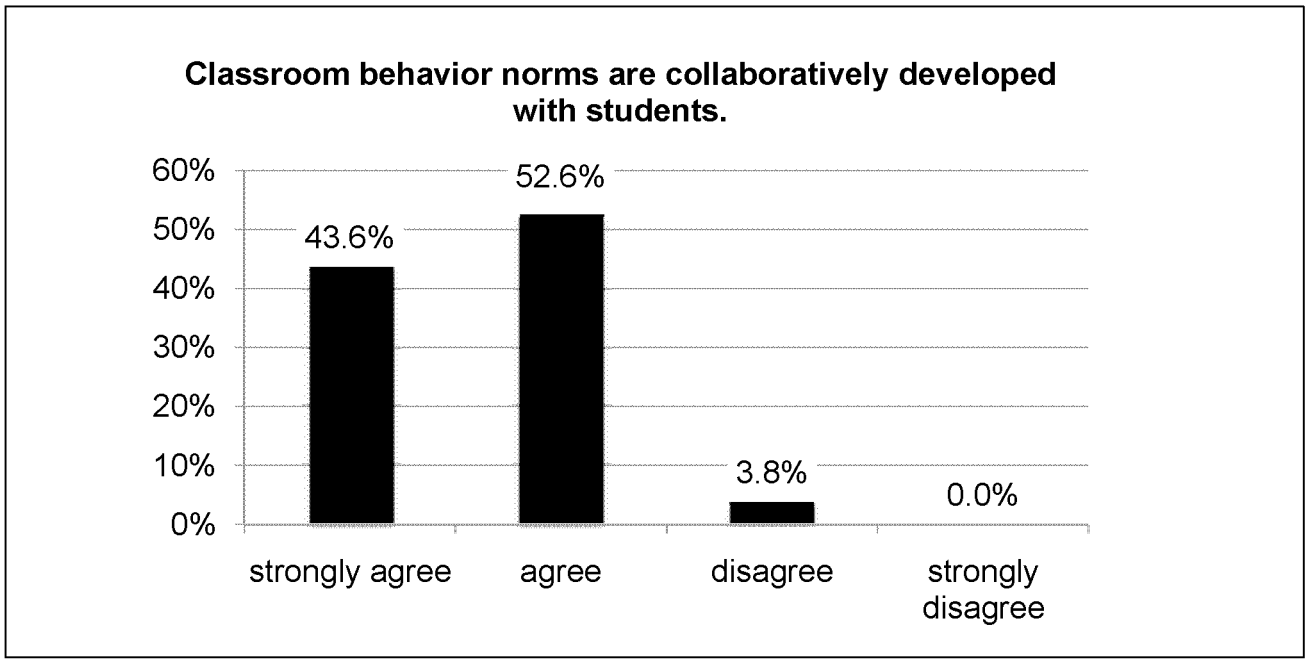

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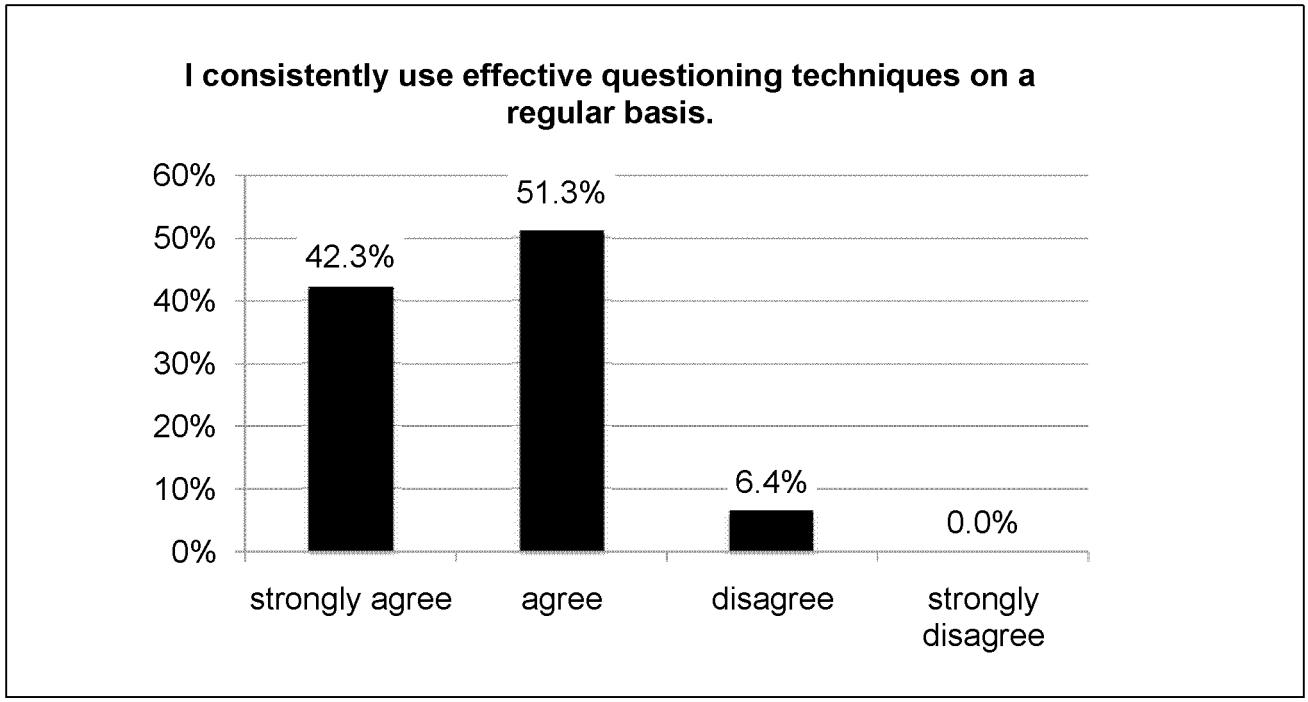
Figure C.5.5 Question 5



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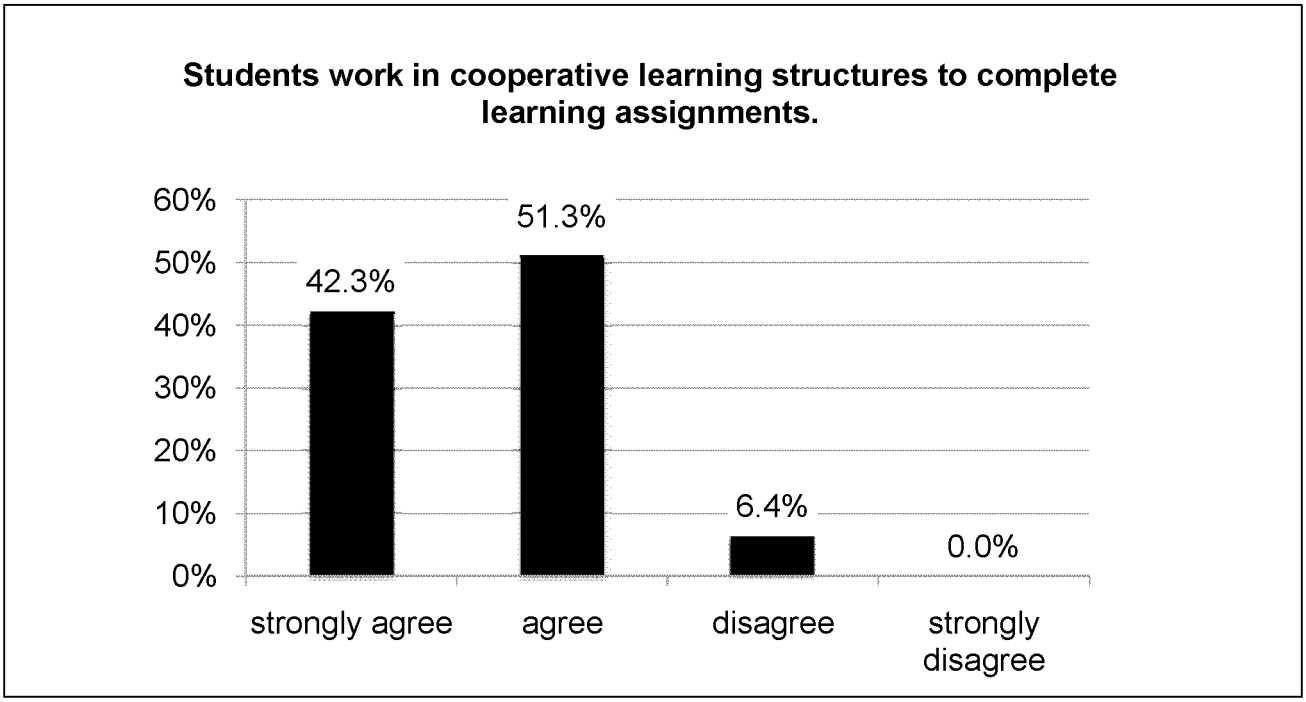

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Figure C.5.7 Question 7

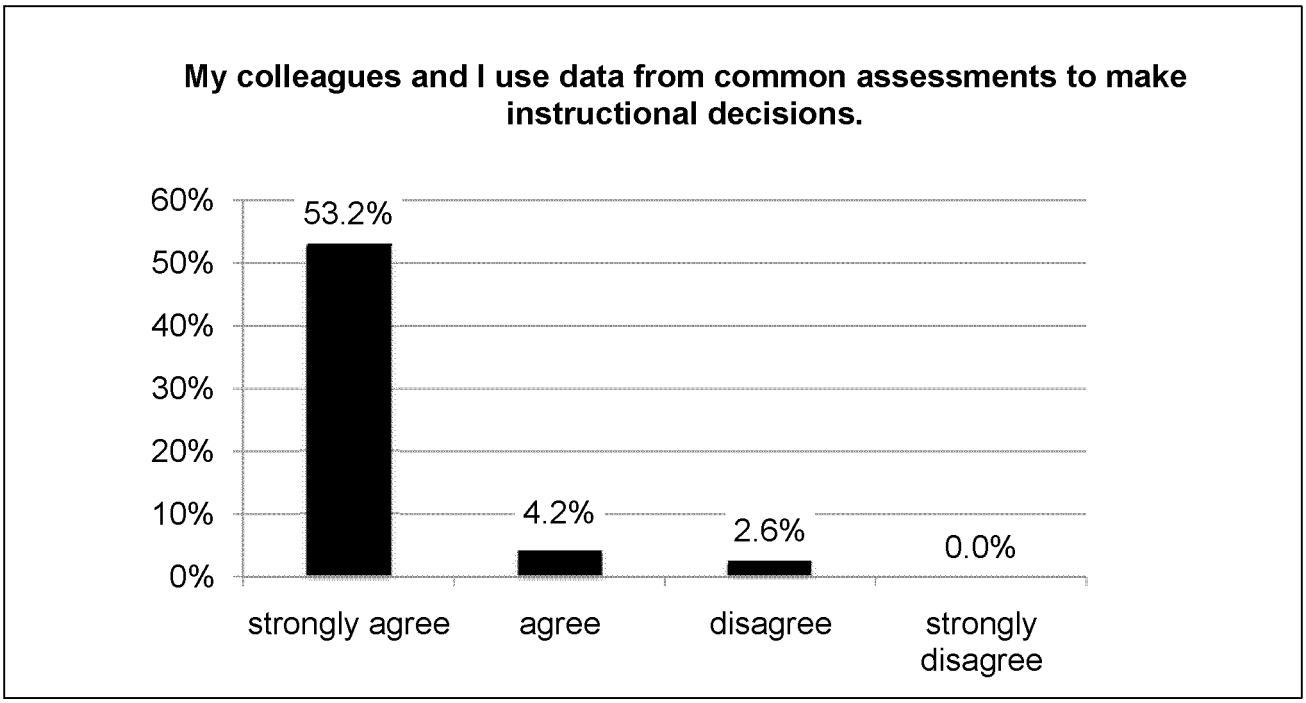

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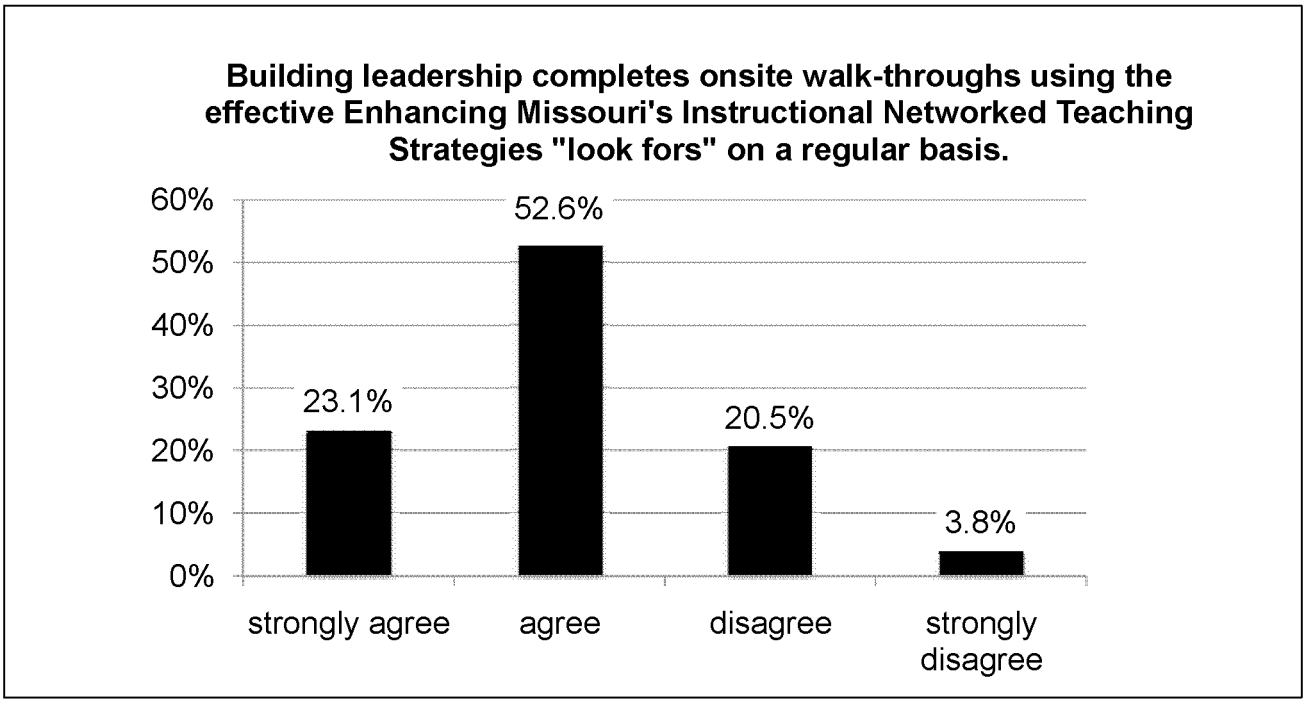
Figure C.5.8 Question 8



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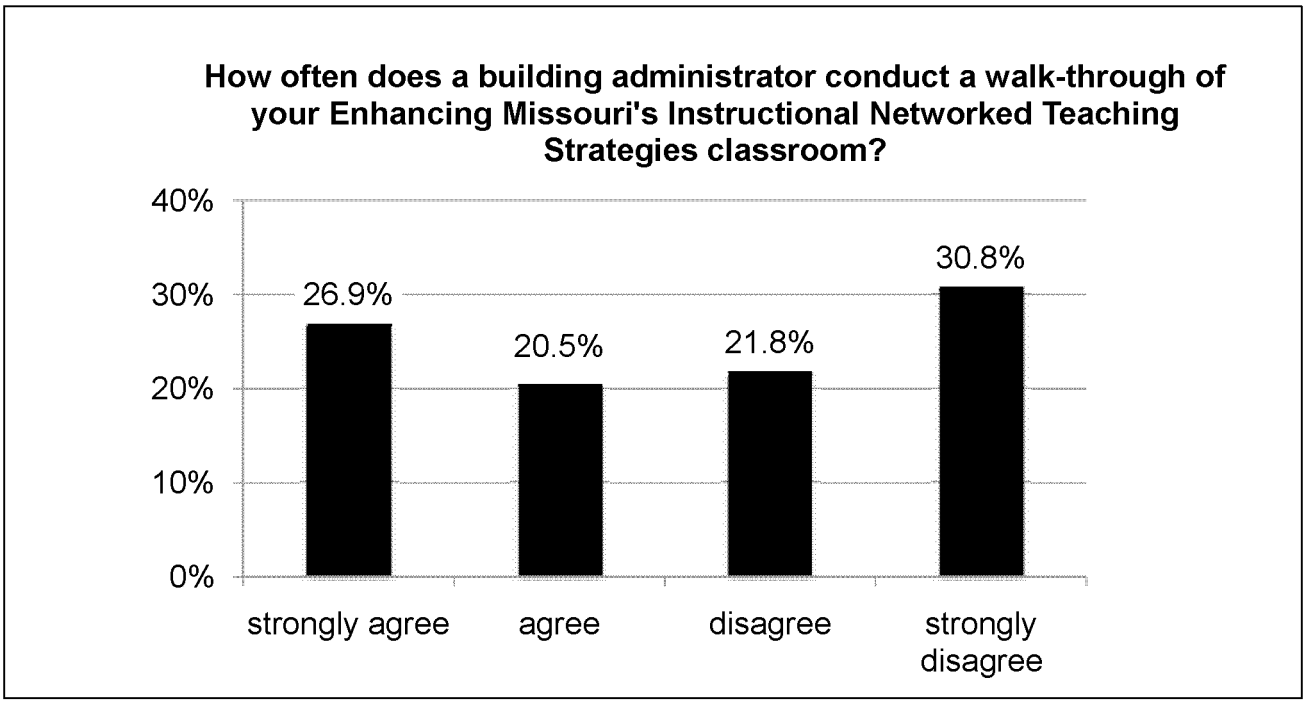

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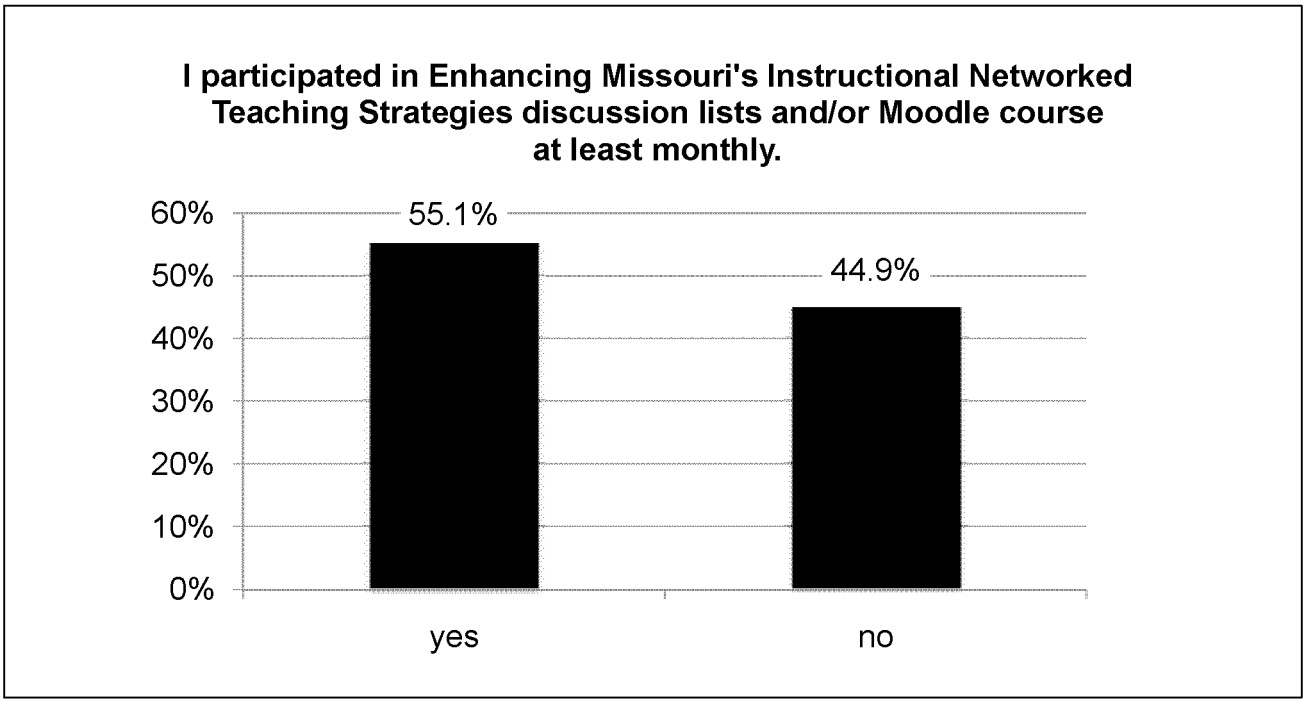

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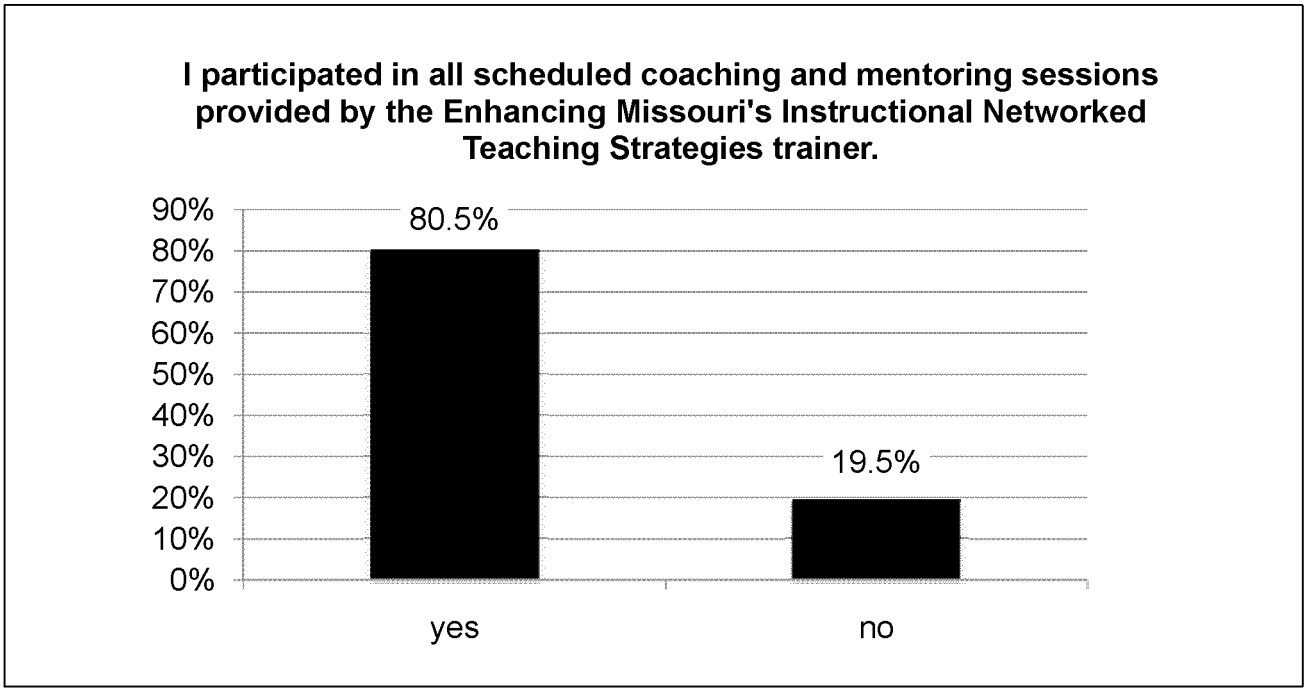
Figure C.5.11 Question 11



(N=78)

C.6 High Schools that Work

High Schools that Work is an effort-based, data-driven school improvement initiative founded on the conviction that most students can master rigorous academic and career/technical studies. School leaders and teachers create an environment that advocates high expectations for all students, providing motivation and support mechanisms that will help students succeed at higher levels.

Figure C.6.1 Question 1

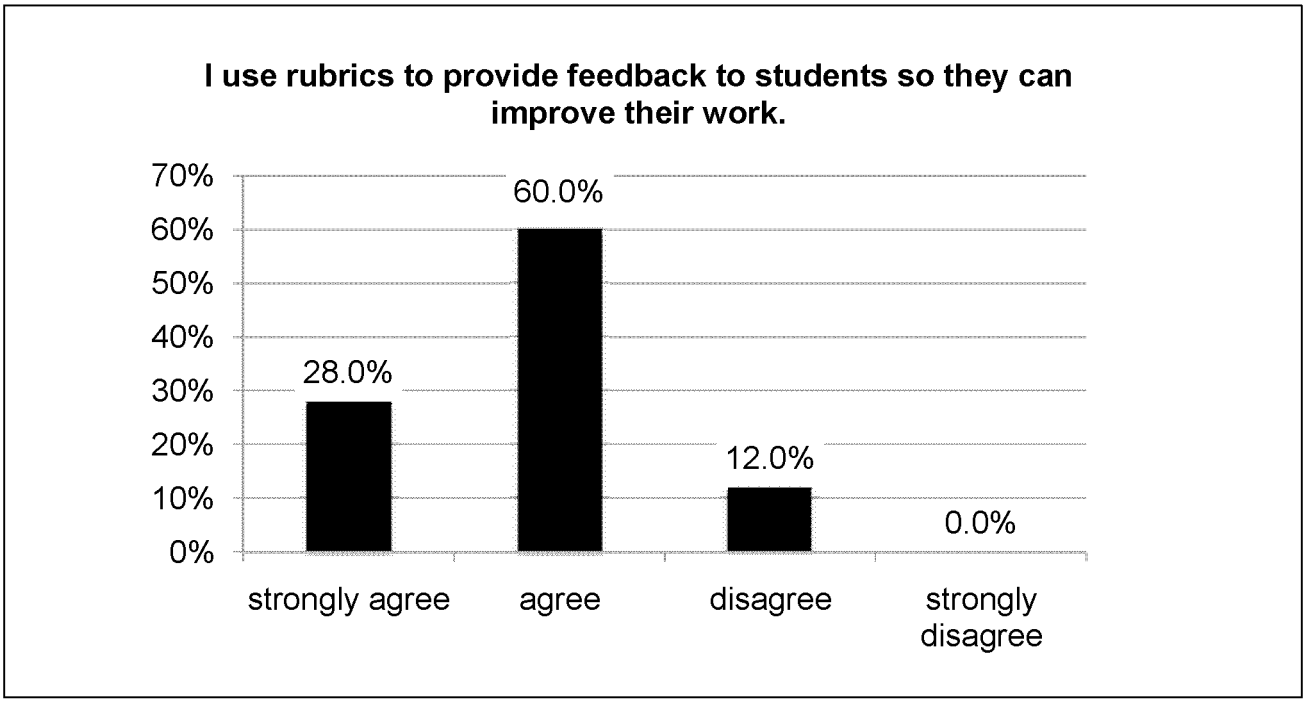


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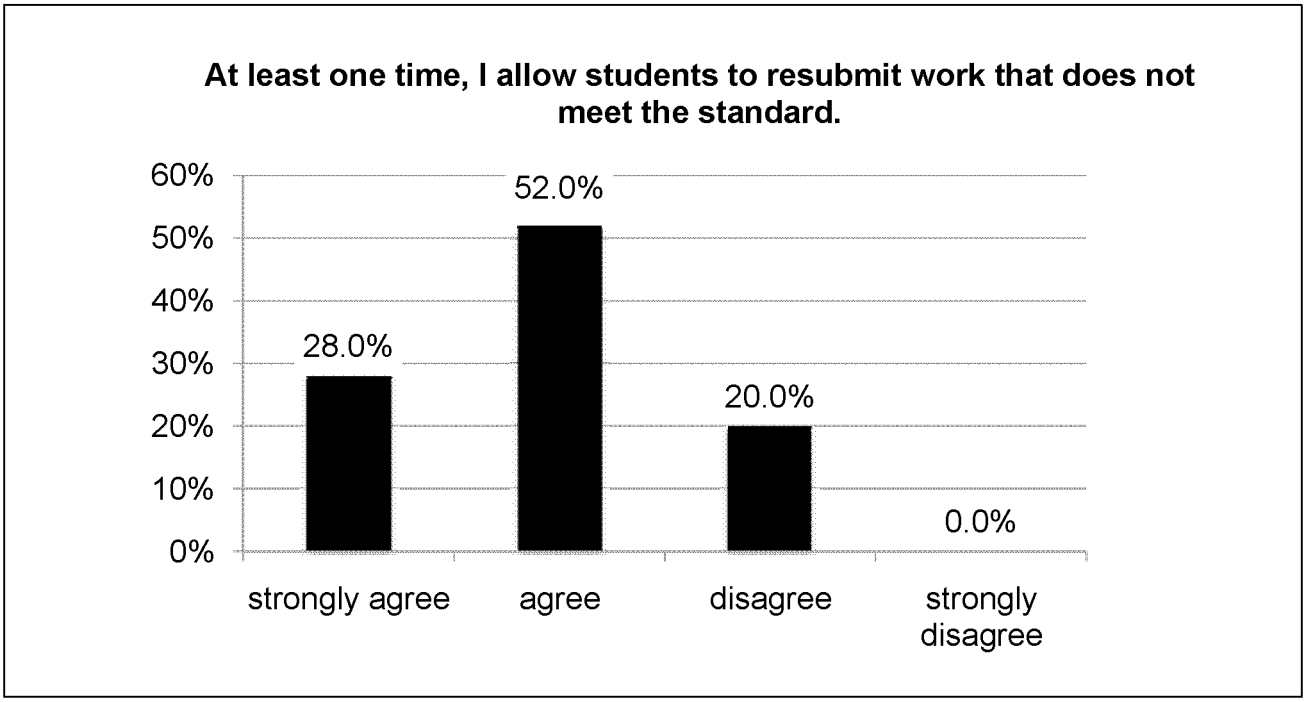
Figure C.6.2 Question 2



(N=25)

Figure C.6.3 Question 3

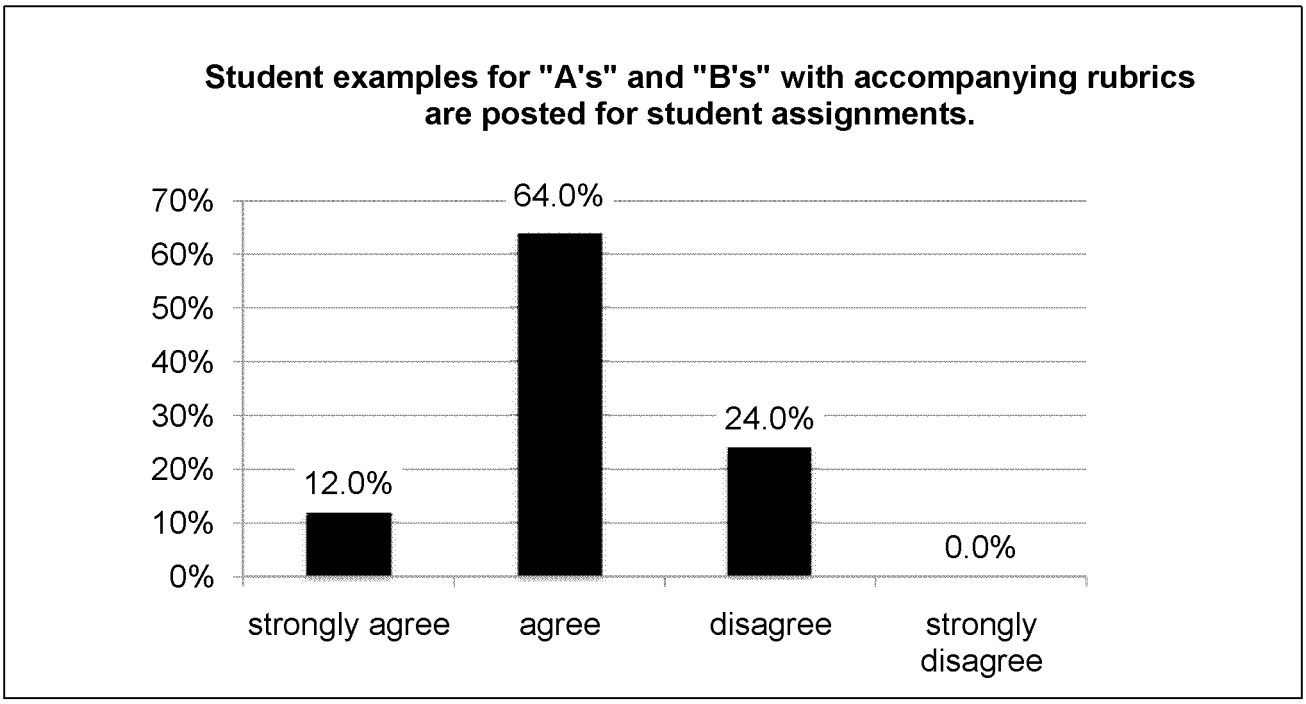


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Figure C.6.4 Question 4

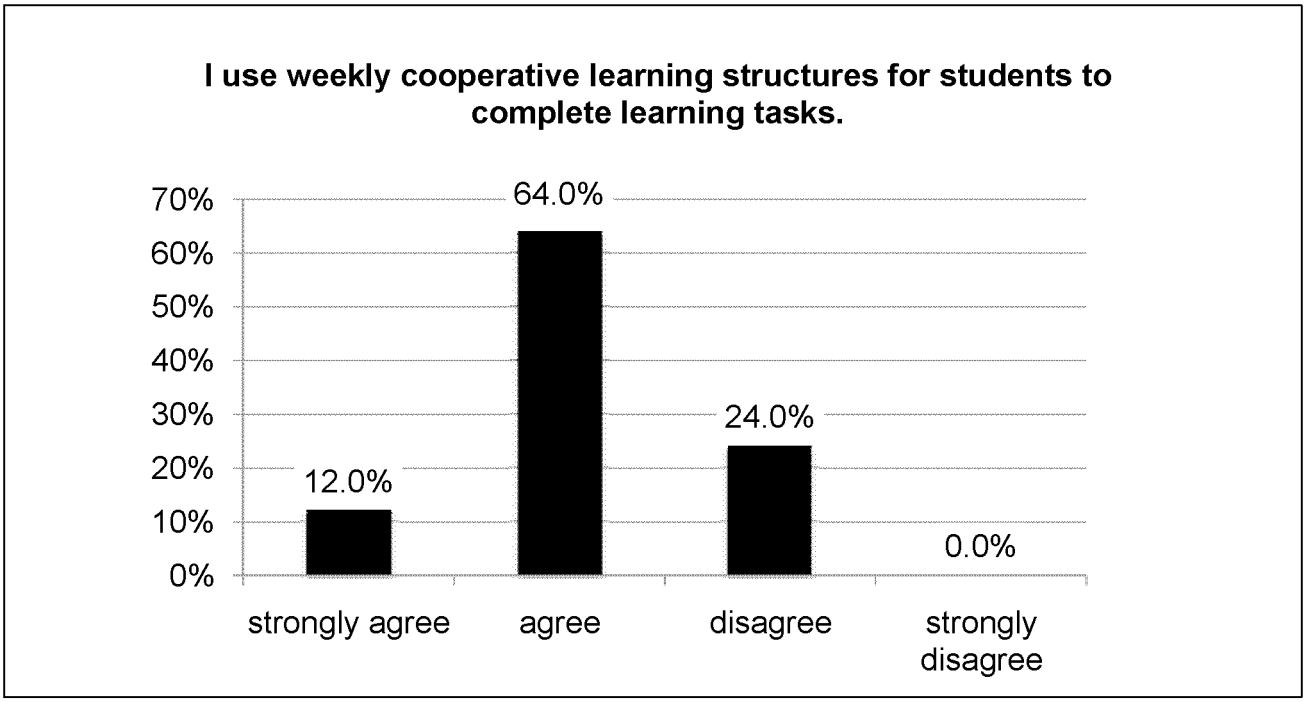

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Figure C.6.5 Question 5

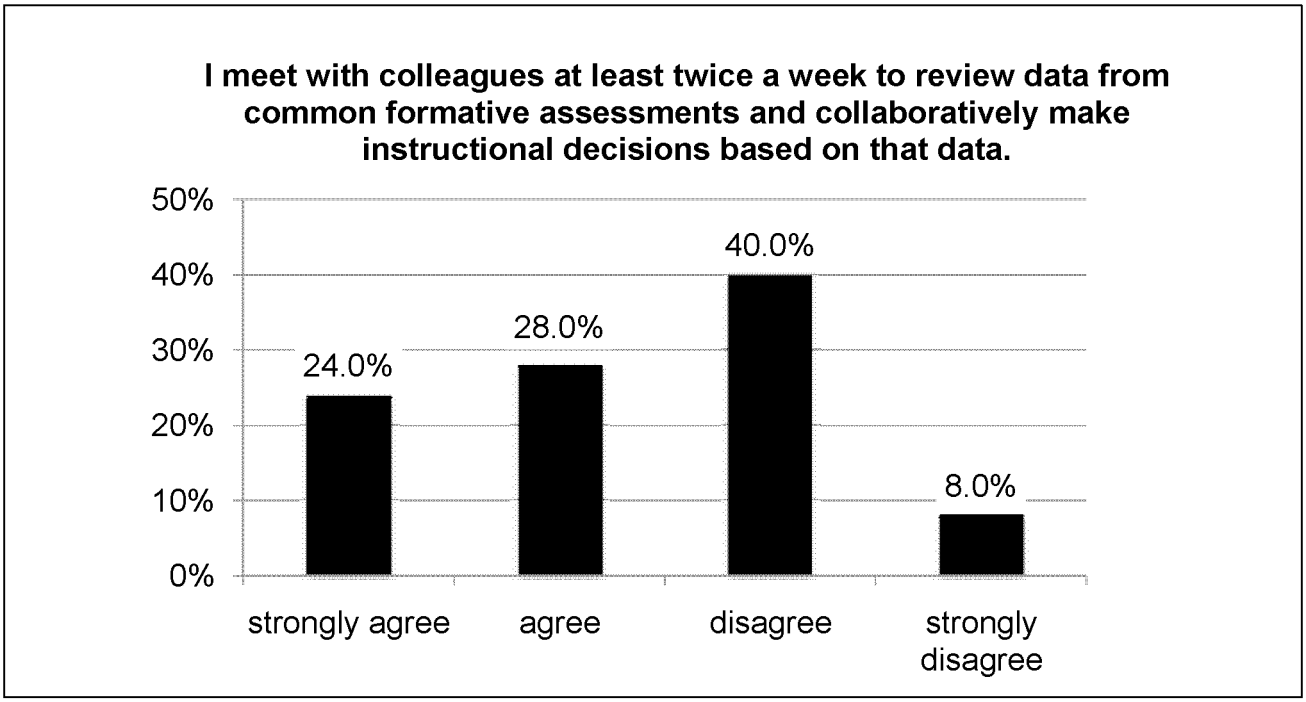

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Figure C.6.6 Question 6

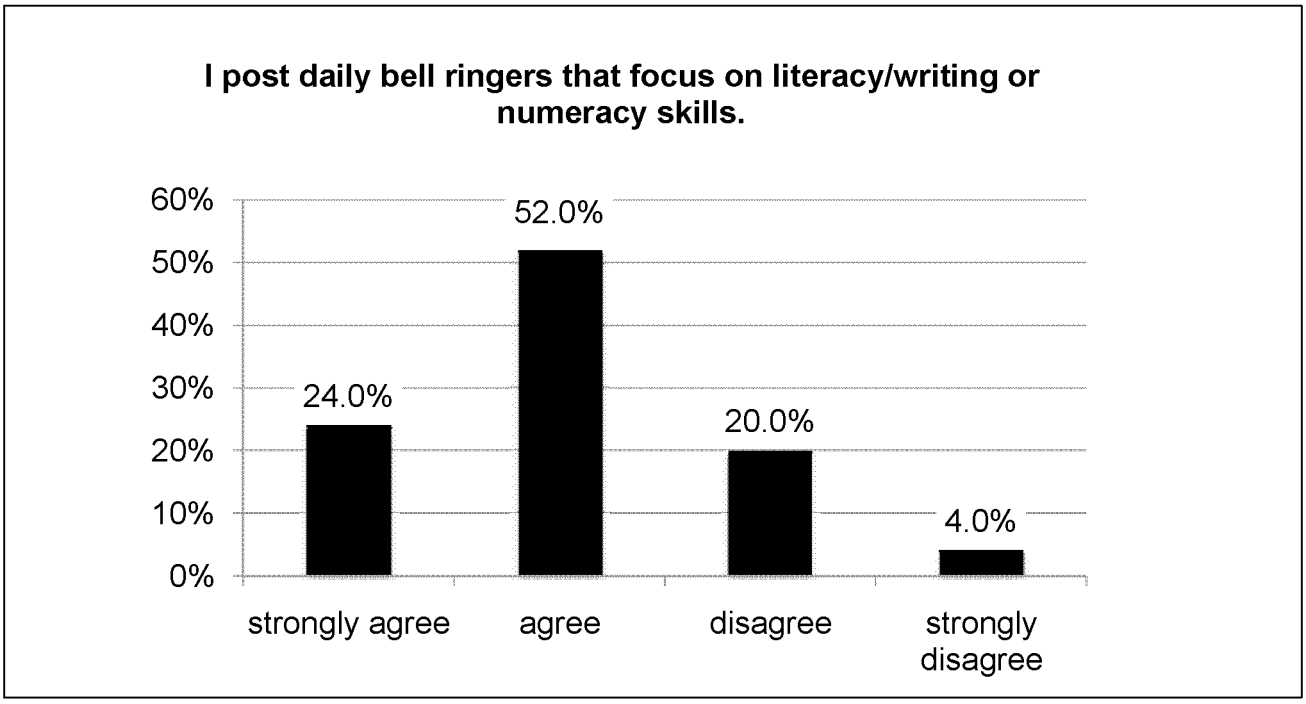

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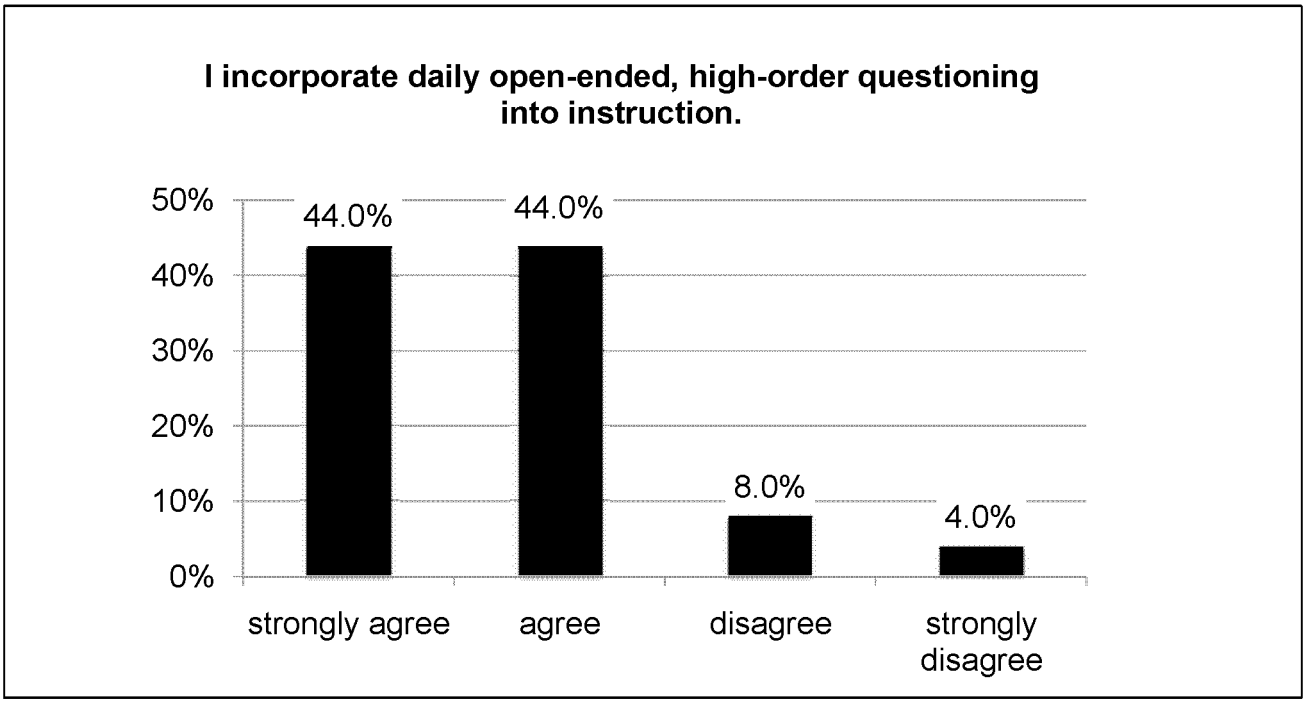
Figure C.6.7 Question 7



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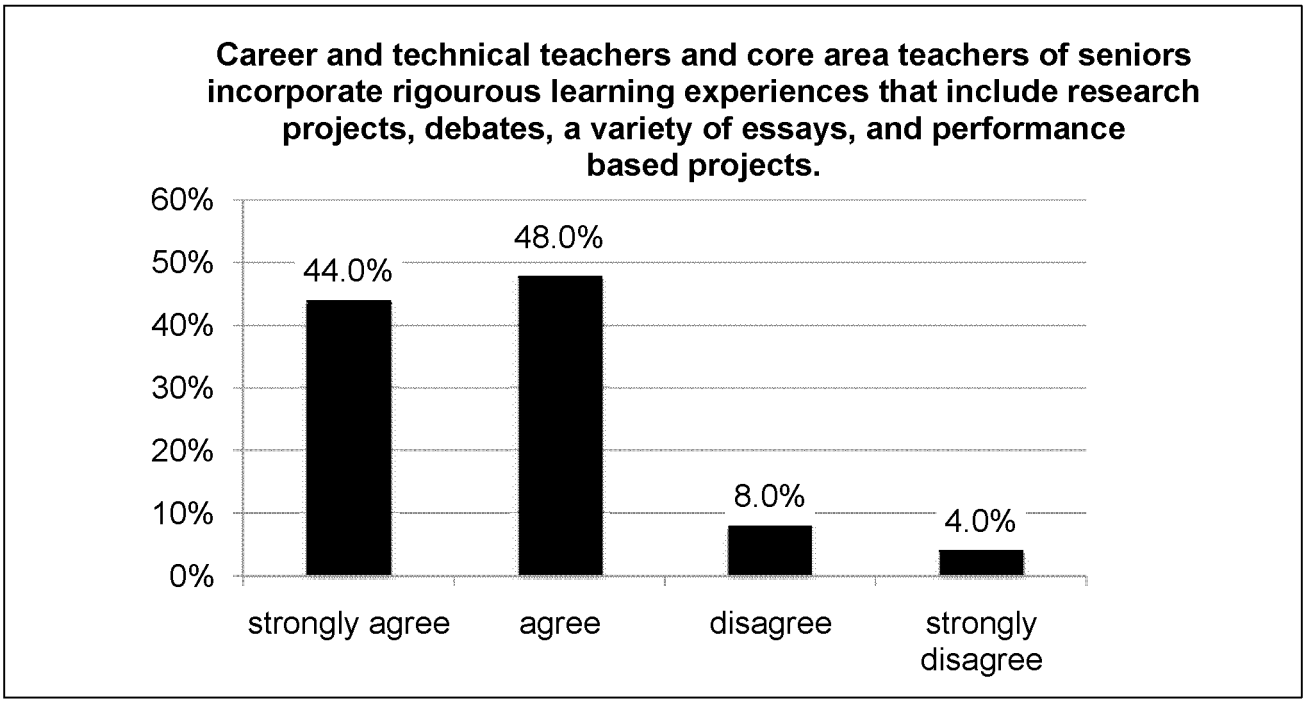

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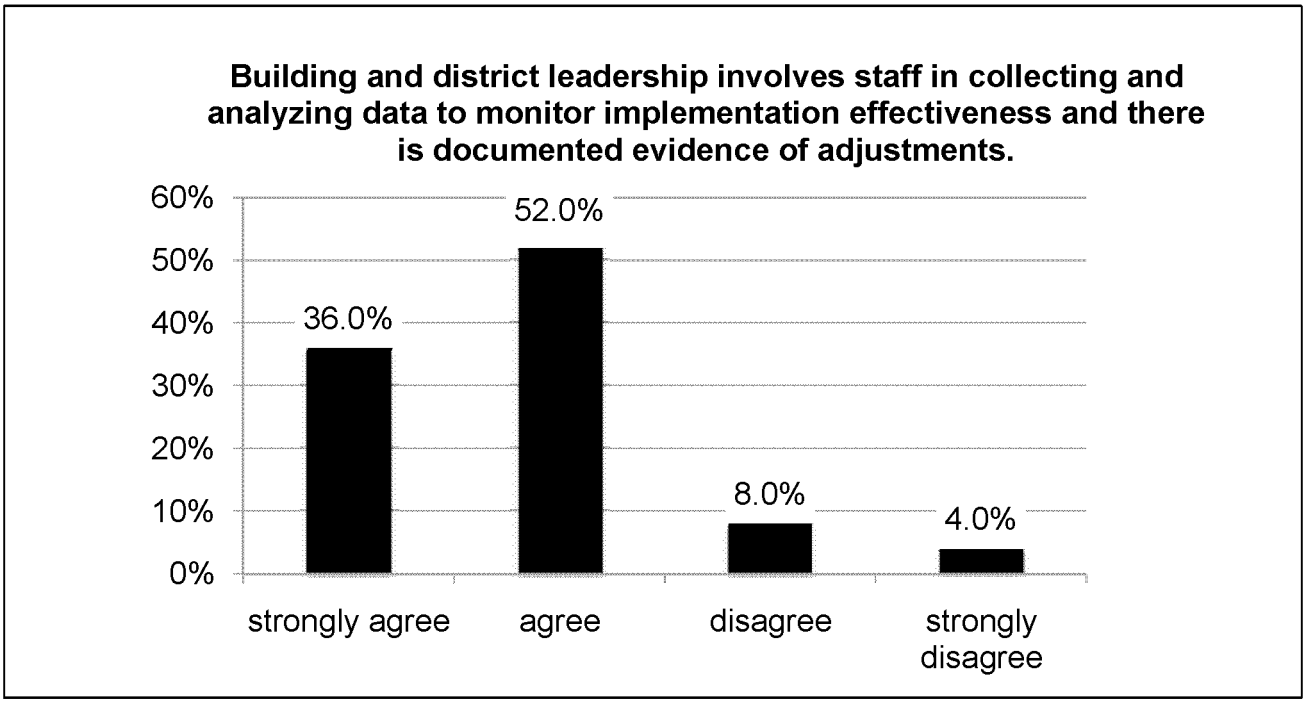
Figure C.6.9 Question 9



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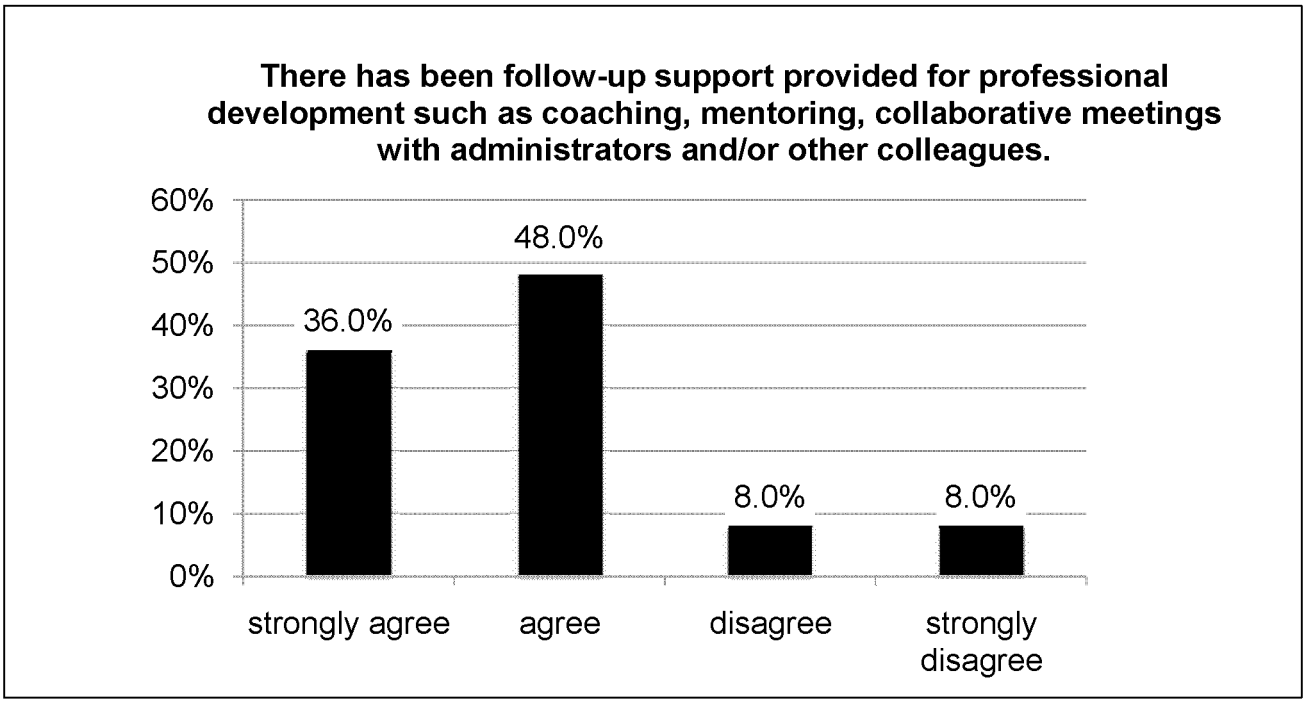

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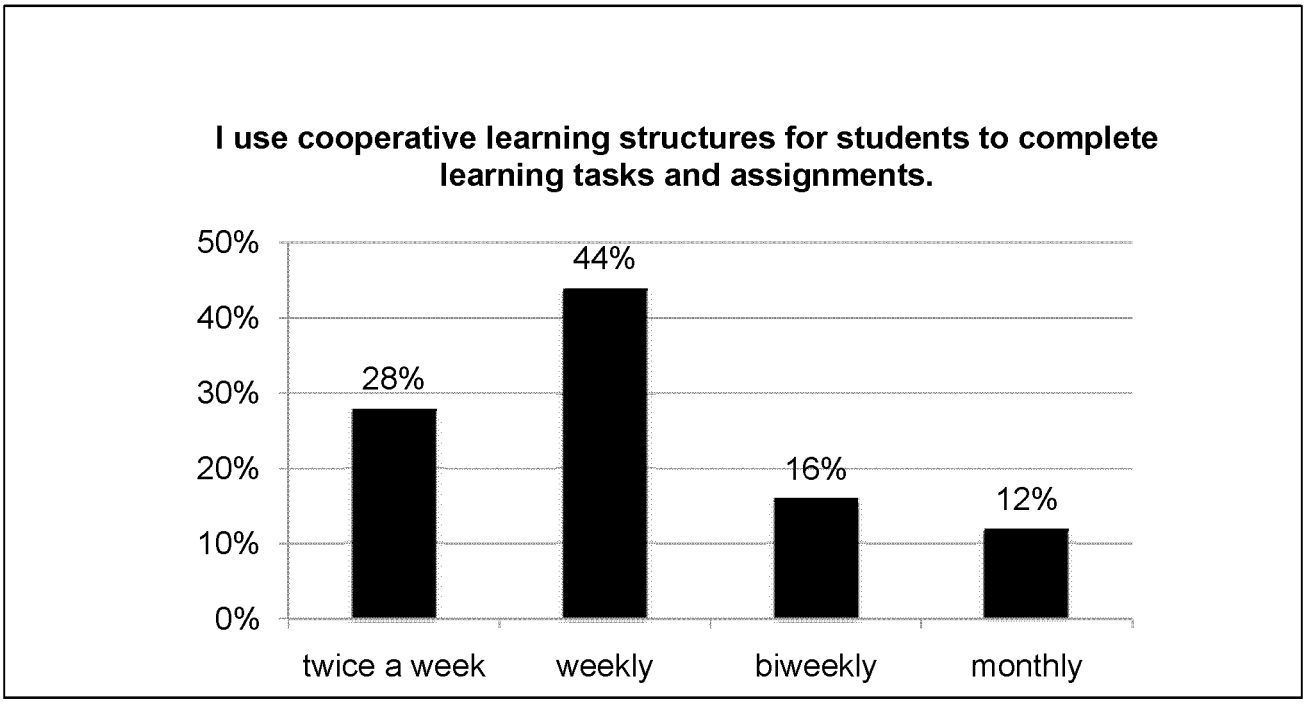

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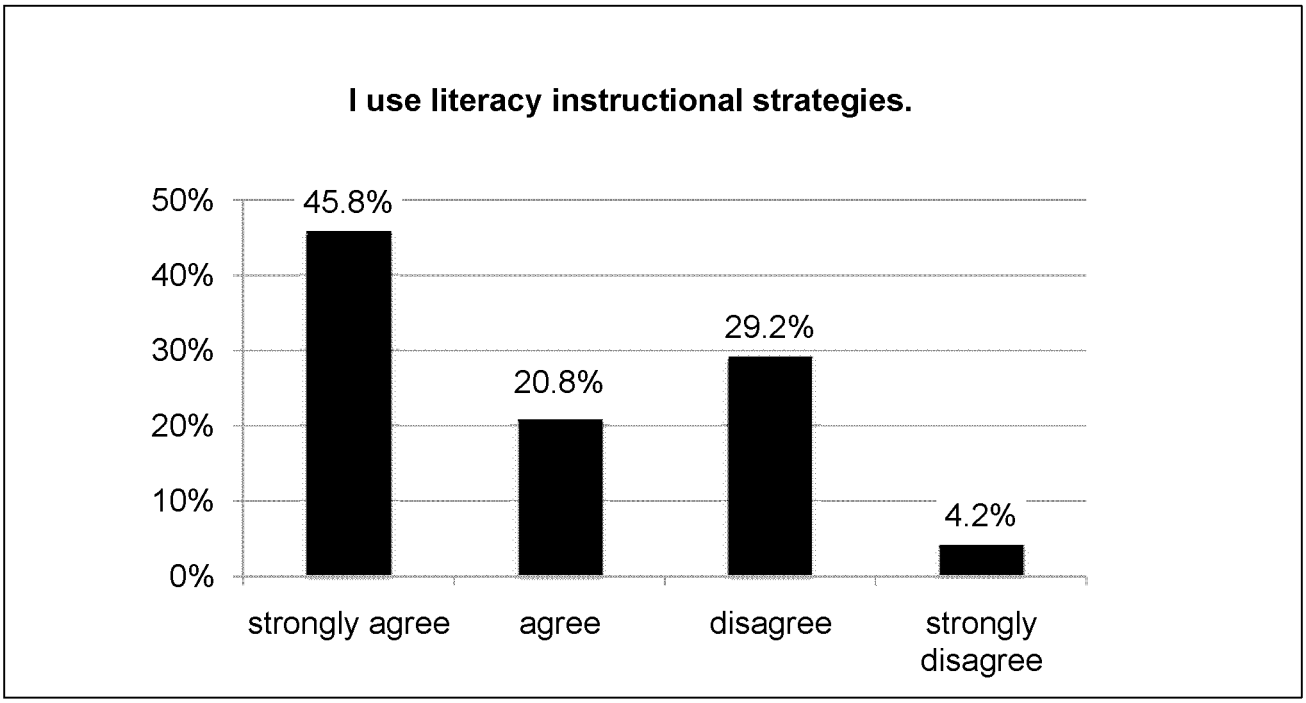
Figure C.6.12 Question 12



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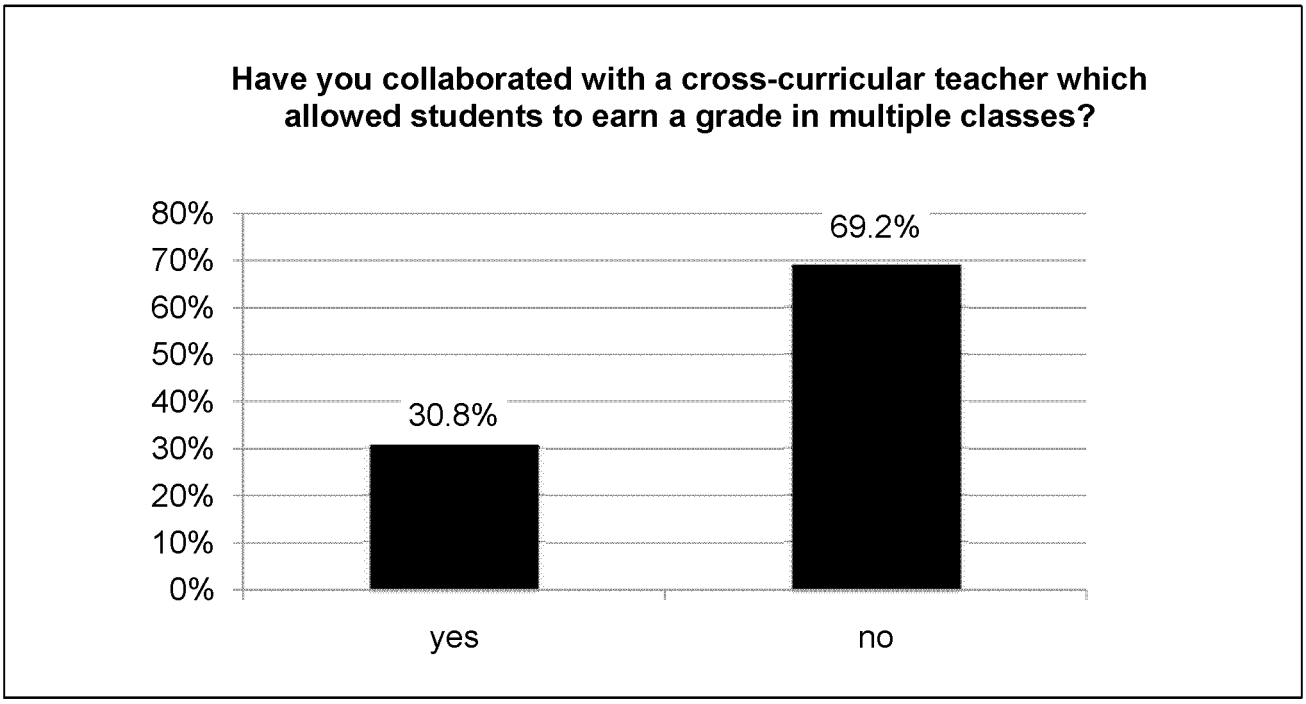


(N=24)

C.7 Making Middle Grades Work Survey Results

Similar to High Schools that Work, Making Middle Grades Work utilizes ten key practices that reflect an effort-based model of school reform centered on students being able to enter high school prepared to successfully take college preparatory curriculum.

Only one school and one district participated in the interview process. Additionally, only one person responded to the online survey.

**No survey data available

C.8 Math-Science Partnership Survey Results

This program is designed to improve the content knowledge of teachers and the performance of students in the areas of math and science by encouraging states, institutions of higher education, local education agencies, and elementary and secondary schools to participate in programs that:

1. Improve and upgrade the status and stature of mathematics and science teaching by encouraging institutions of higher education to improve mathematics and science teacher education.
2. Focus on the education of mathematics and science teachers as a career-long process.
3. Bring mathematics and science teachers together with scientists, mathematicians, and engineers to improve their teaching skills.
4. Provide summer institutes and ongoing professional development for teachers to improve their knowledge and teaching skills.

The Math-Science Partnership program is intended to increase the academic achievement of students in mathematics and science by enhancing the content knowledge and teaching skills of classroom teachers. Partnerships between high-need school districts and the science, technology, engineering, and mathematics faculty in institutions of higher education are at the core of these improvement efforts. Other partners may include state education agencies, public charter schools or other public schools, businesses, and nonprofit or for-profit organizations concerned with mathematics and science education.

The Math-Science Partnership program is a formula grant program to the states, with the size of individual state awards based on student population and poverty rates. No state receives less than one-half of one percent of the total appropriation. With these funds, each state is responsible for administering a grant competition, in which grants are made to partnerships to improve teacher knowledge in mathematics and science.

Of the six schools selected, no schools participated in the audit, and only one district that was selected provided information.

**No survey data available

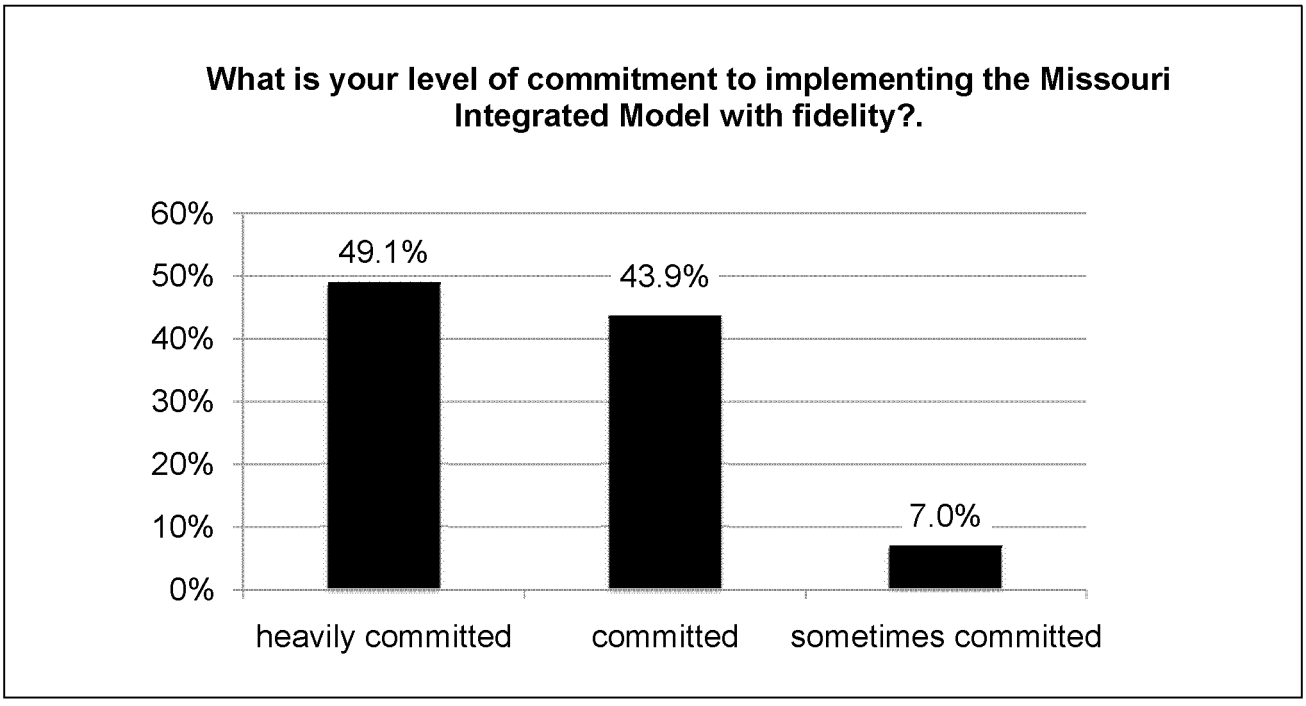
C.9 Missouri Integrated Model Survey Results

The Missouri Integrated Model framework focuses on supporting academic achievement and successful behavior through tiered levels of support that acknowledge and address diversity in student learning. The Missouri Integrated Model is grounded in evidence-based practices:

- Response to Intervention
- School-Wide Positive Behavior Support
- High Schools that Work
- Reading First
- Professional Learning Communities

Eleven common essential features were identified that represent the practices and qualities congruent with effective schools, responsive intervention, and successful system-change efforts. Collectively, the tiered levels of support and the essential features are integrated to form the Missouri Integrated Model. The eleven essential features serve to provide a structure for problem solving education needs, and to help schools respond more effectively to the instructional needs of all students.

Figure C.9.1 Question 1



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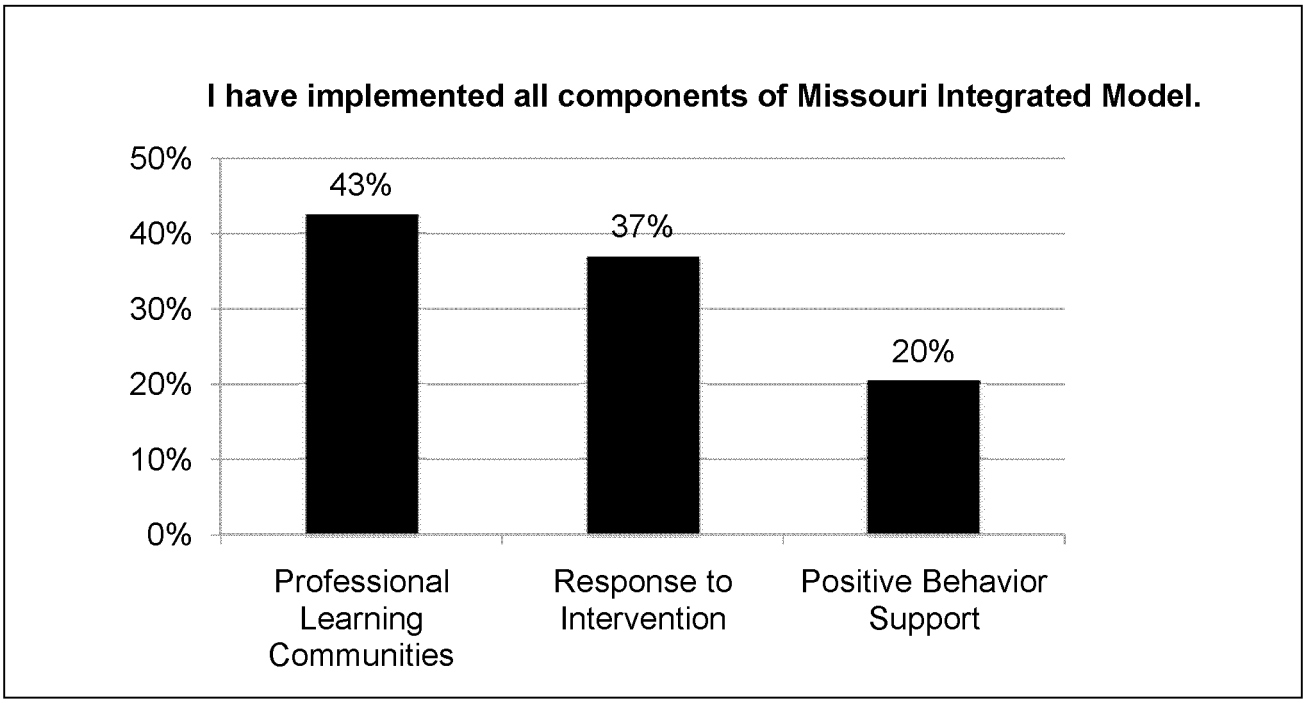

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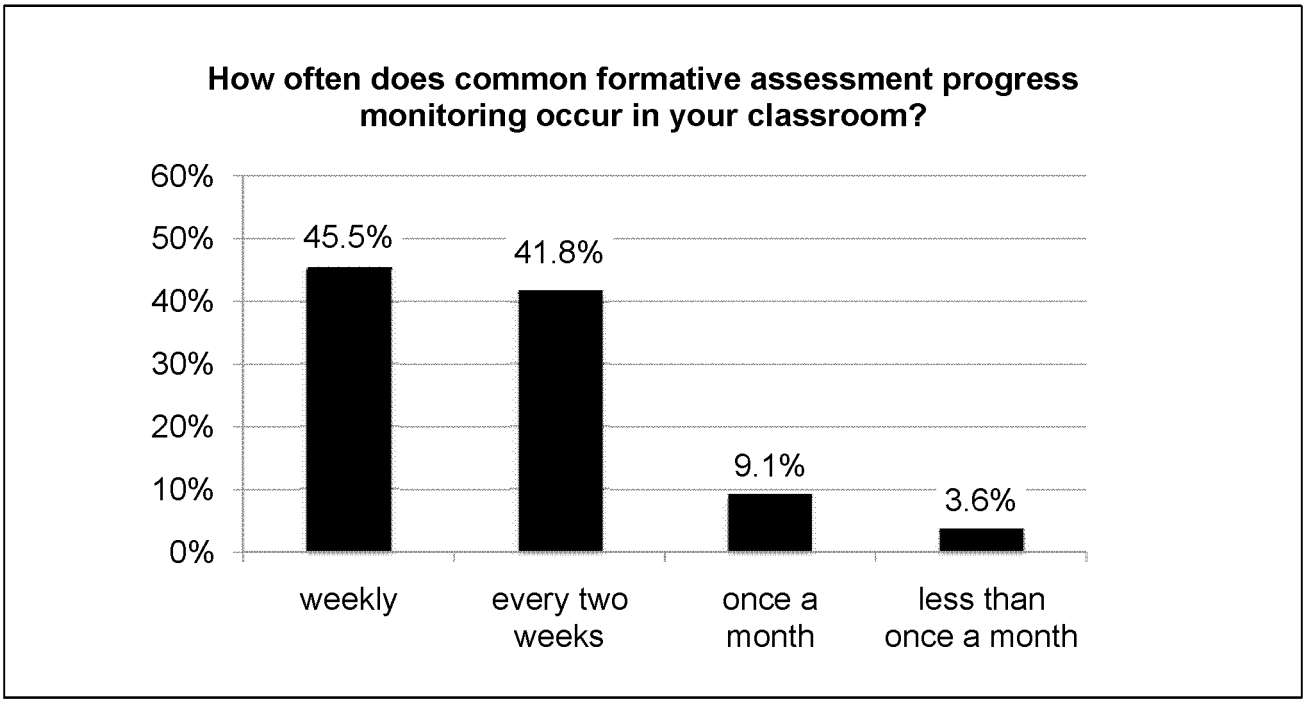

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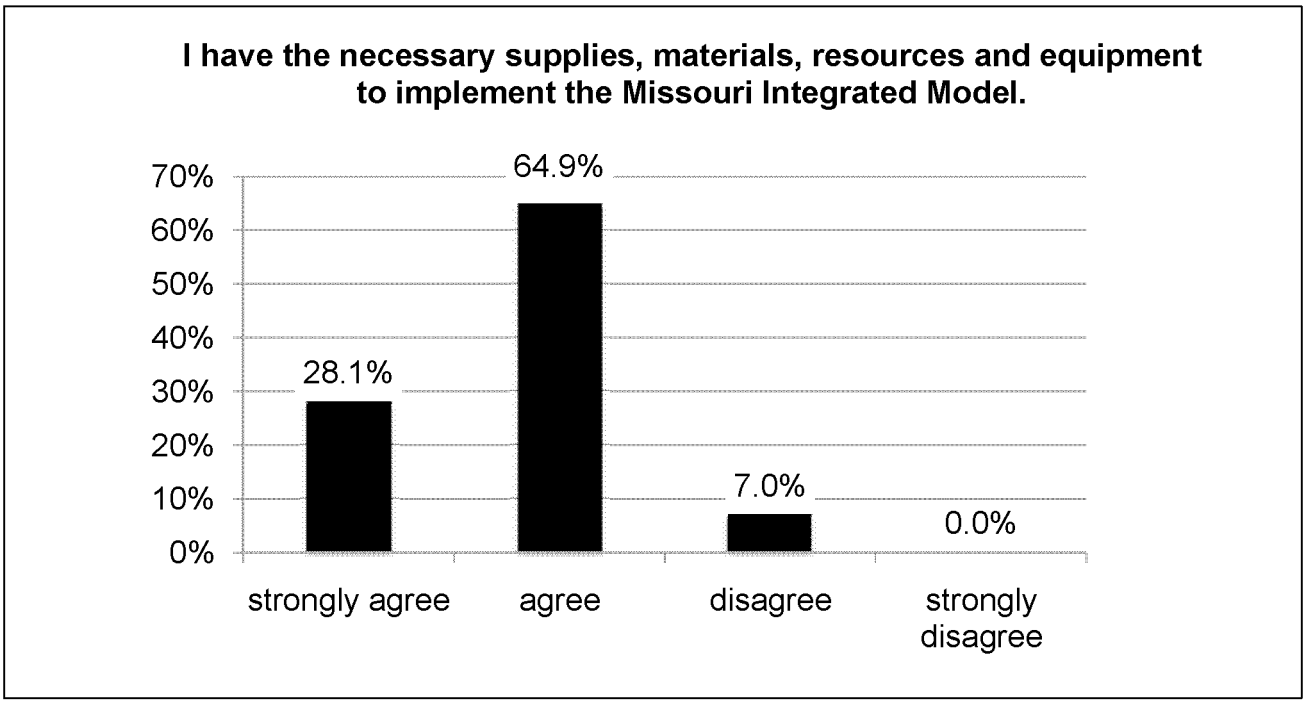

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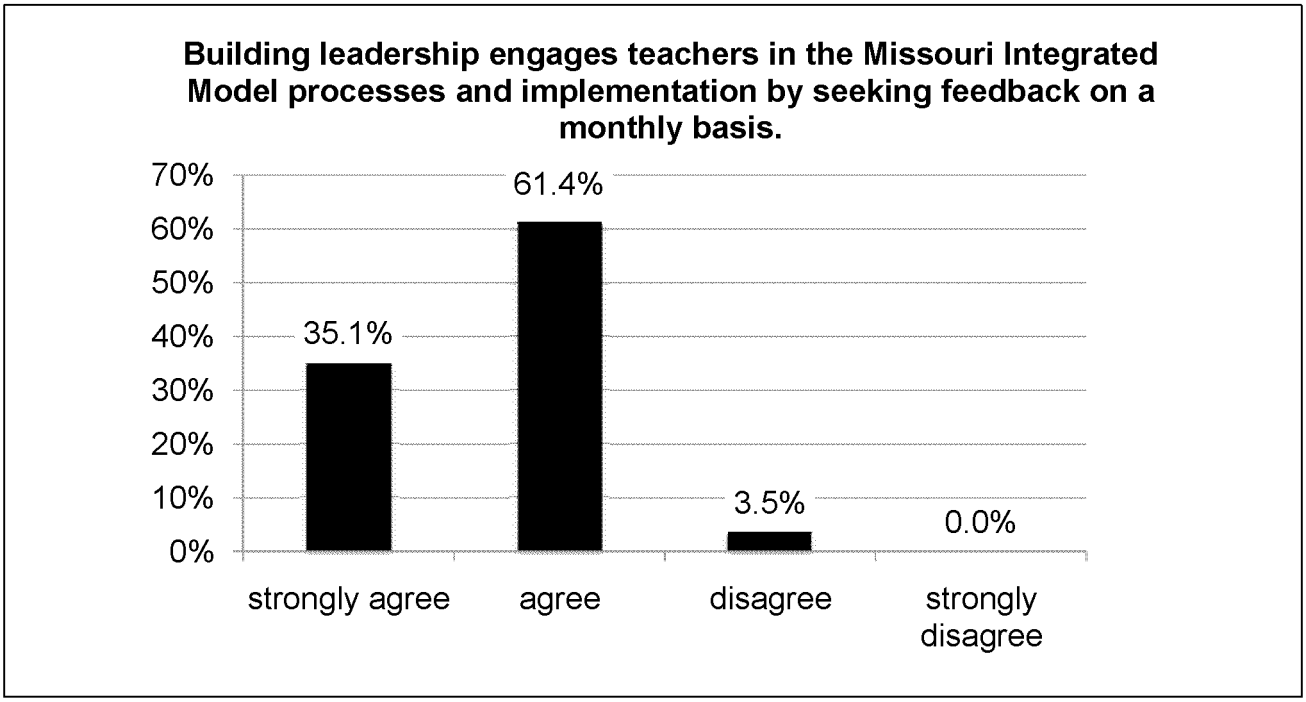

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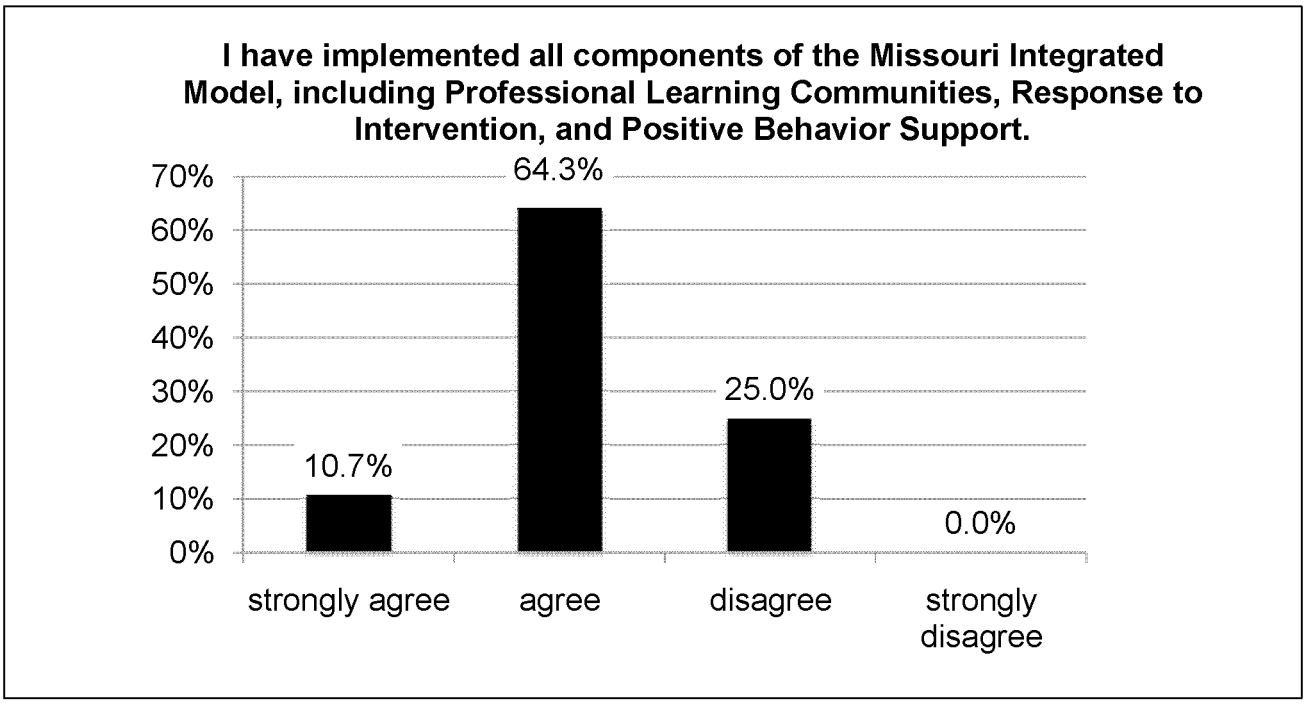

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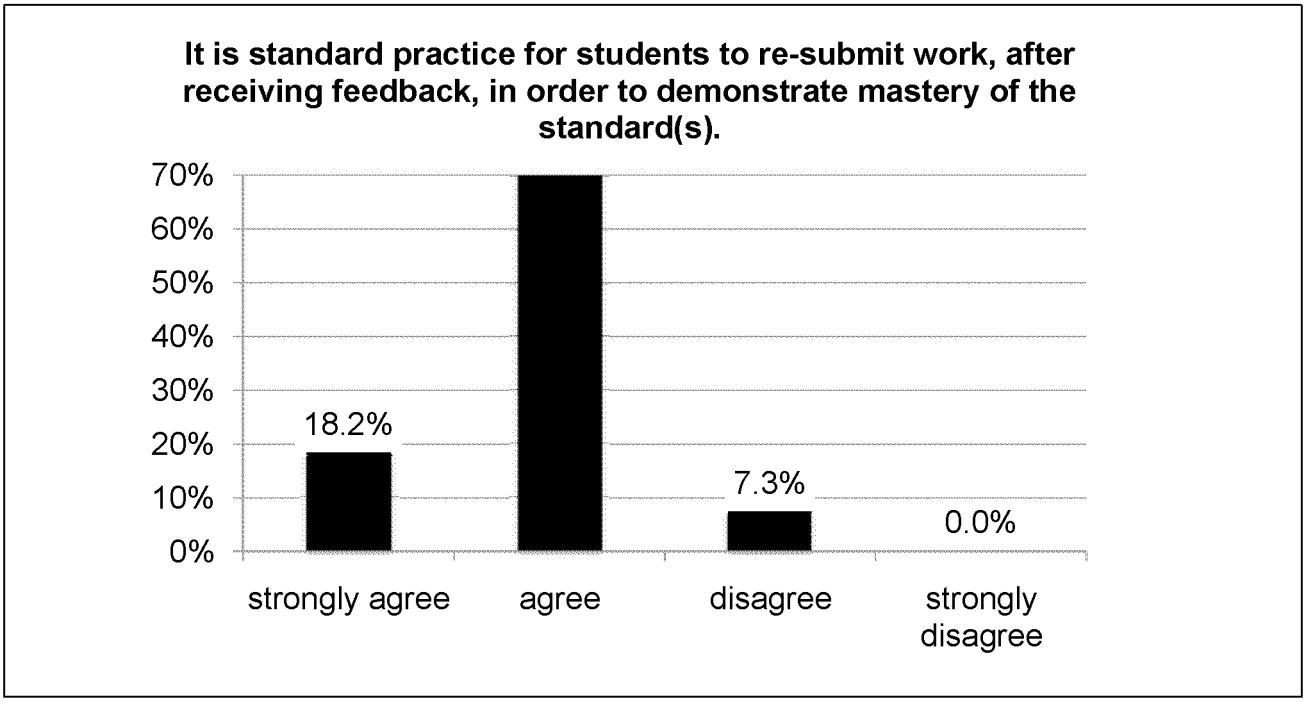

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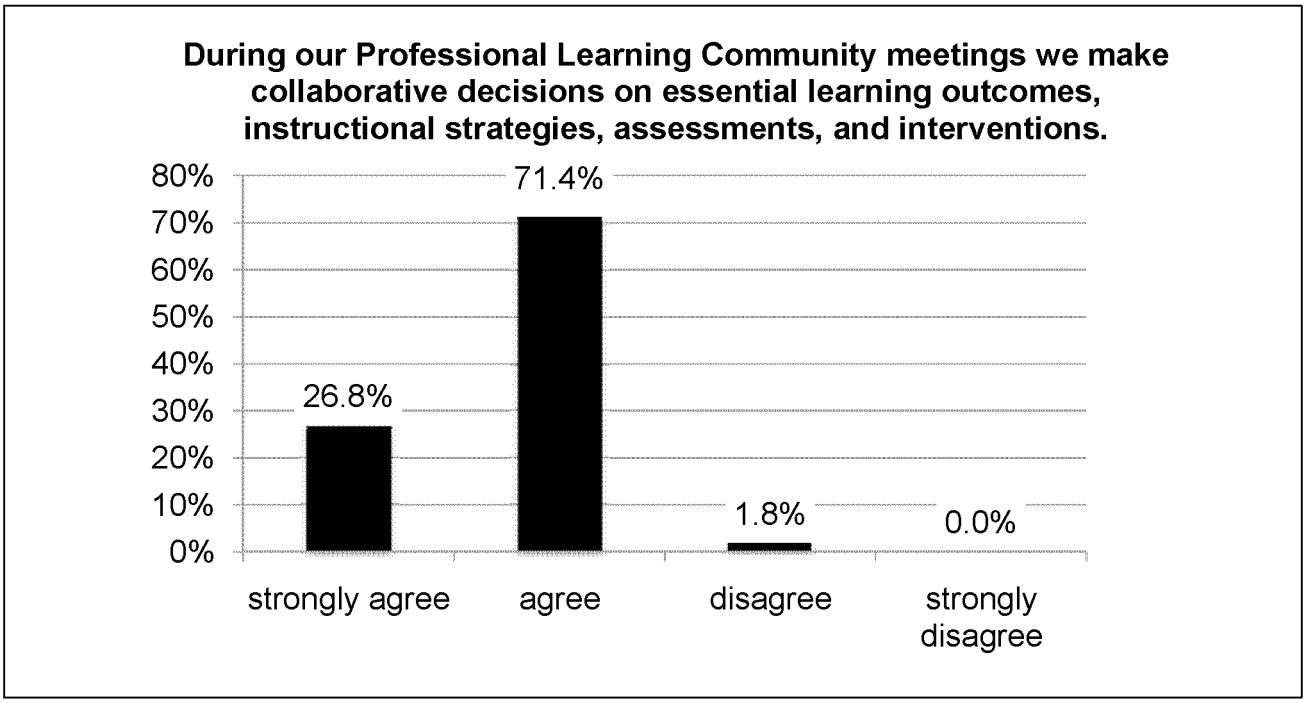
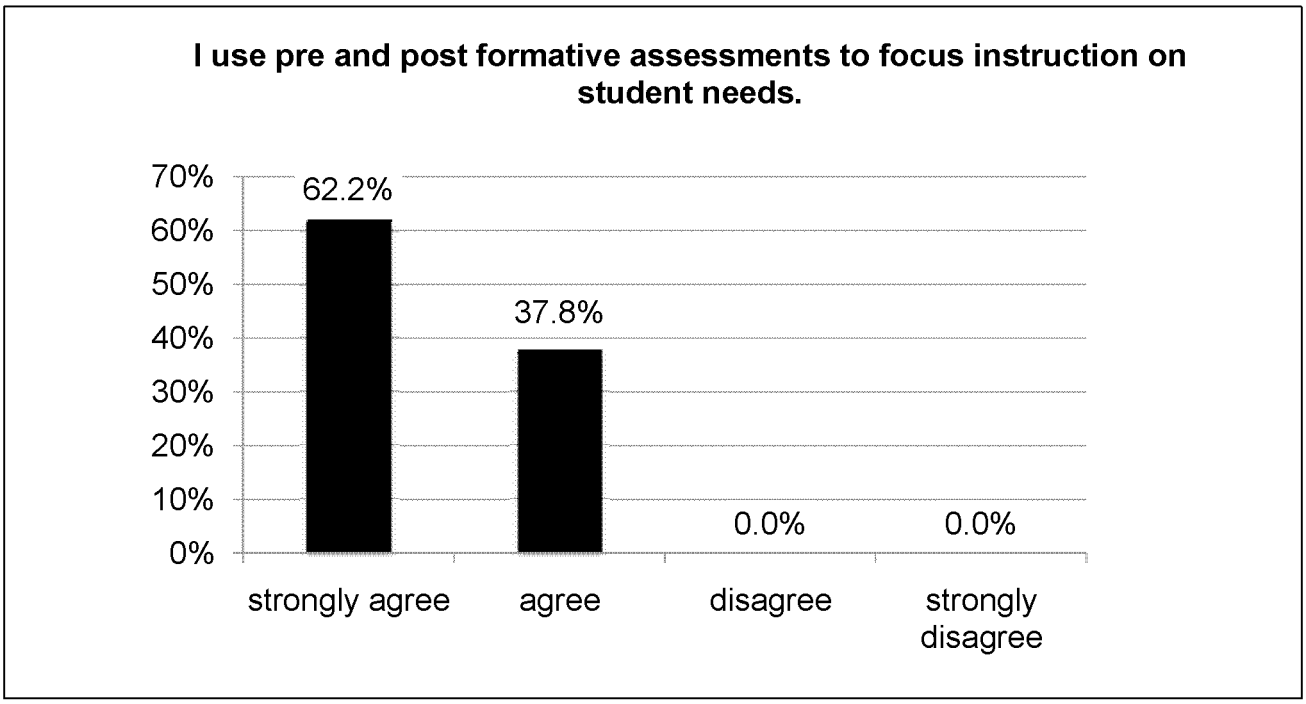


(N=56)

C.10 Missouri Option Program Survey Results

The Missouri Option Program is designed to target students who are 17 years of age and who have the capabilities to complete Missouri's High School Graduation Requirements, but for a variety of reasons lack the credits needed to graduate with their class and are at risk of leaving school without a high school diploma. Students take the General Education Development tests to demonstrate academic proficiency, but are issued a regular diploma. There are 175 districts serving 3,000 students statewide. No funds are allocated to local schools for the program.

Figure C.10.1 Question 1



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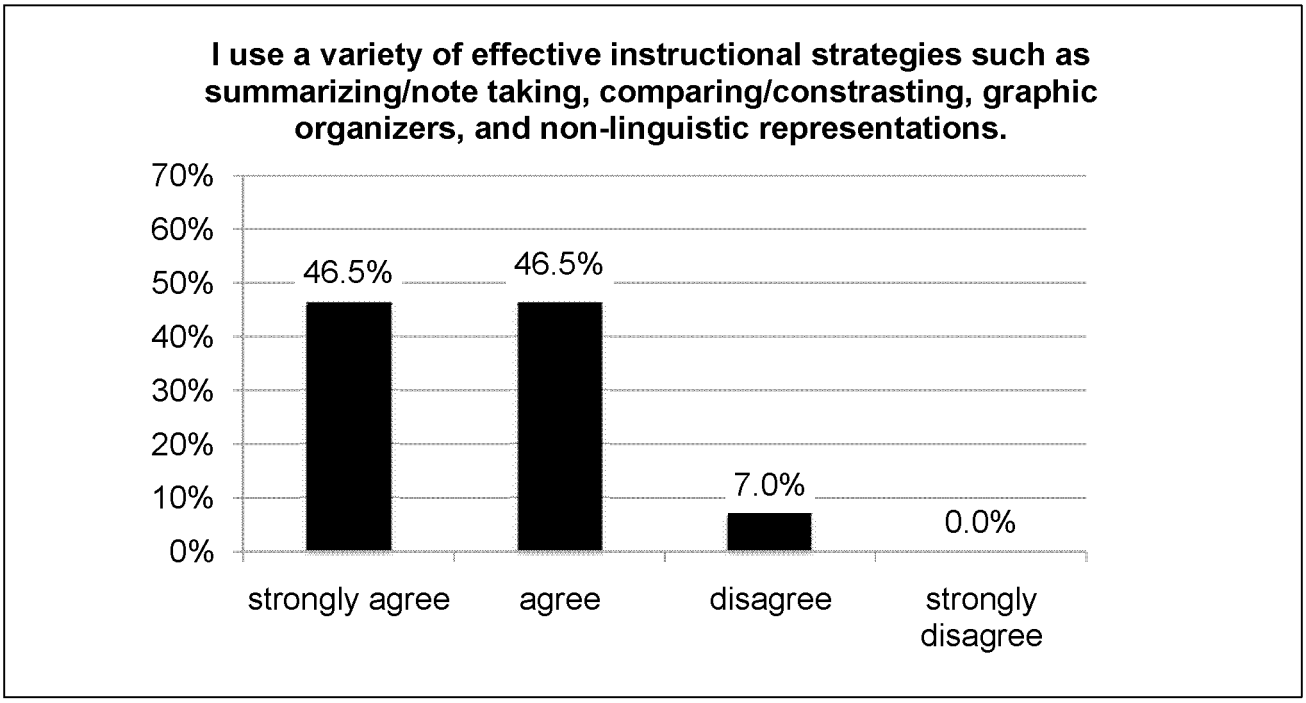

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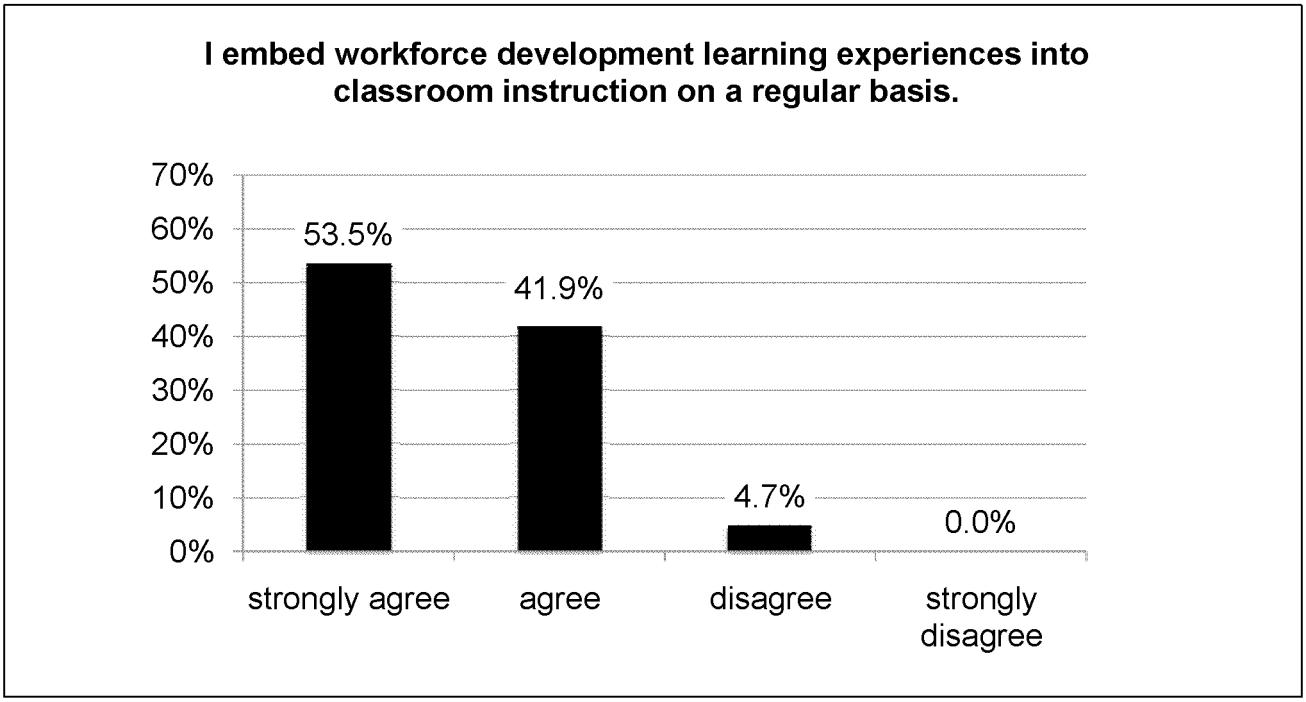

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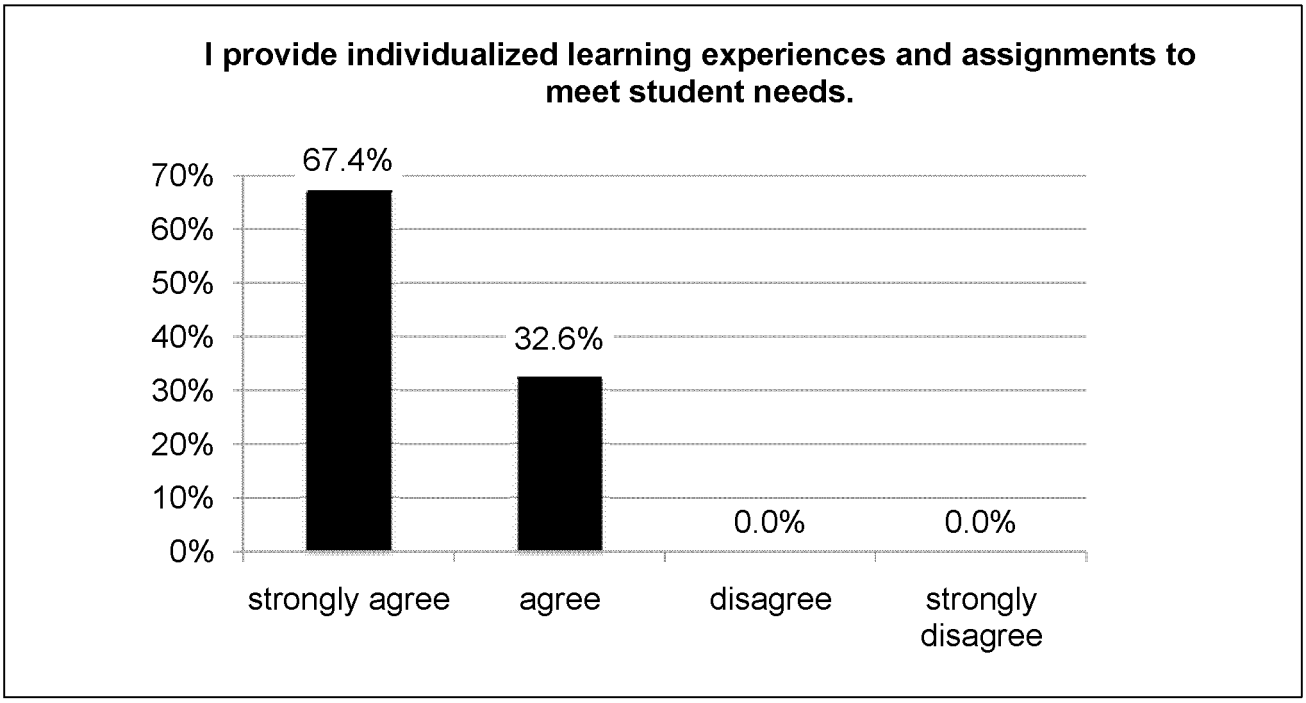

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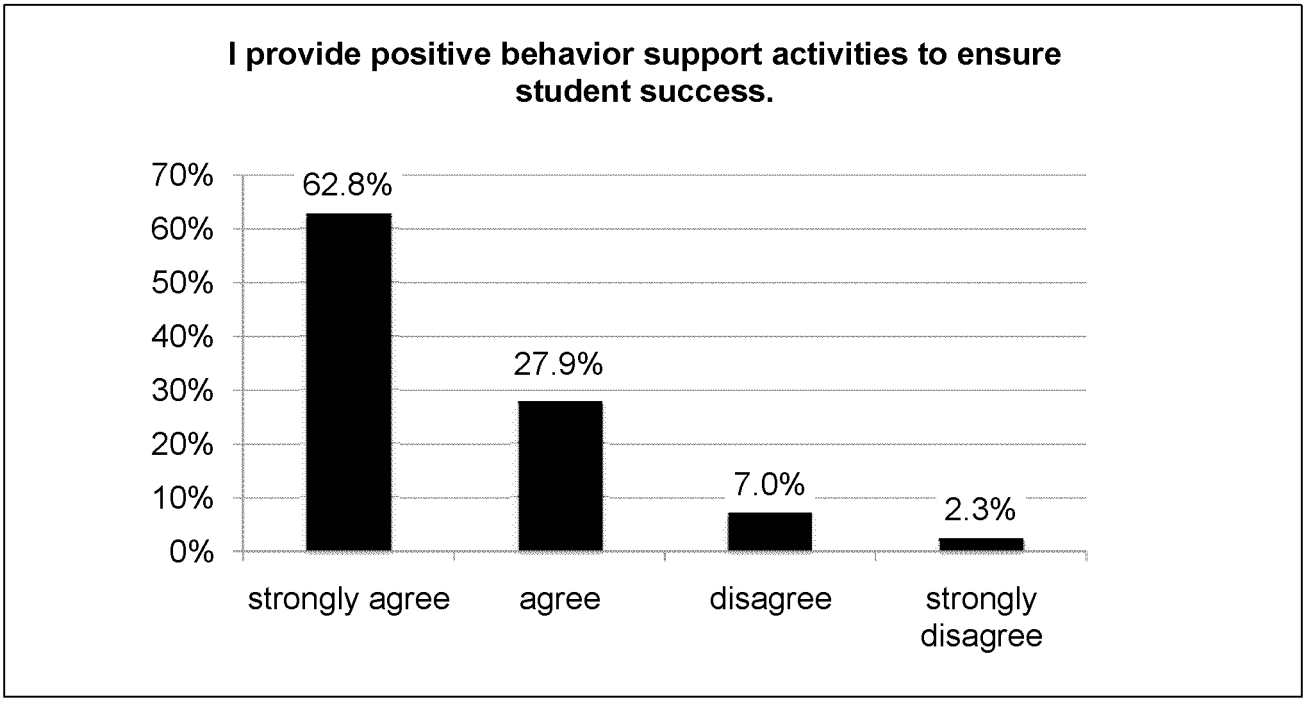

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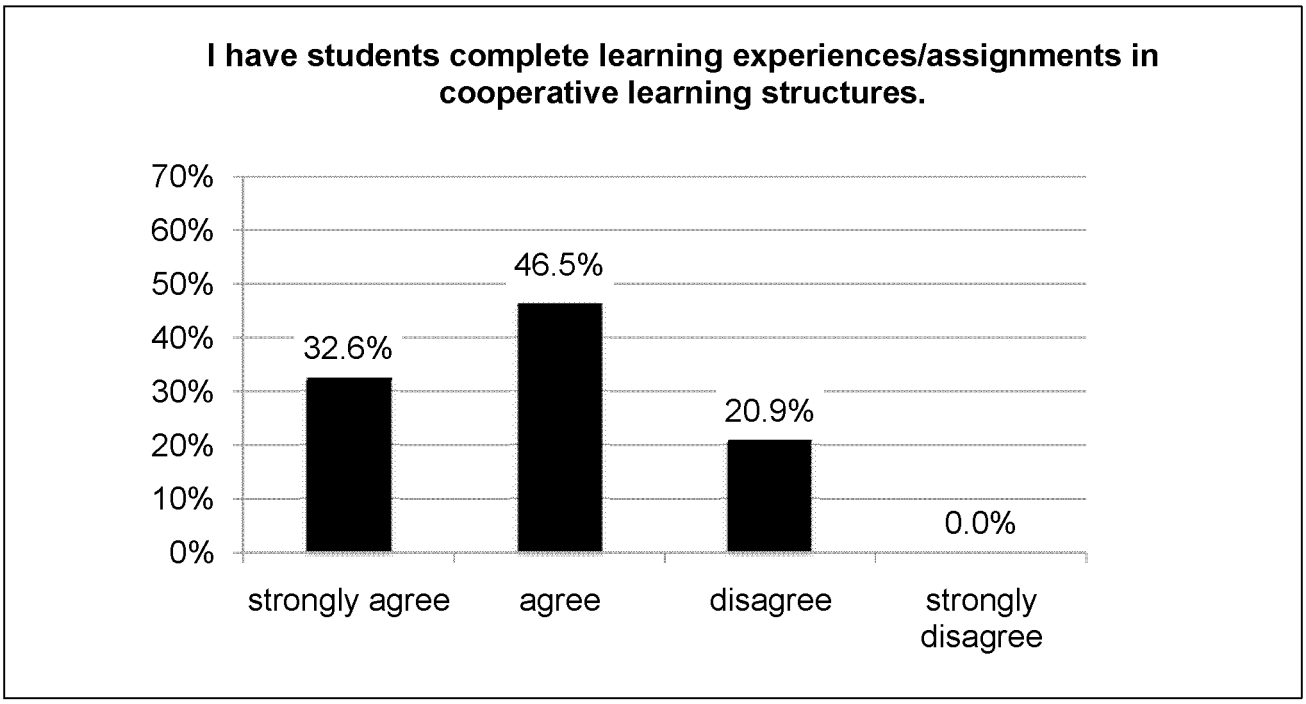

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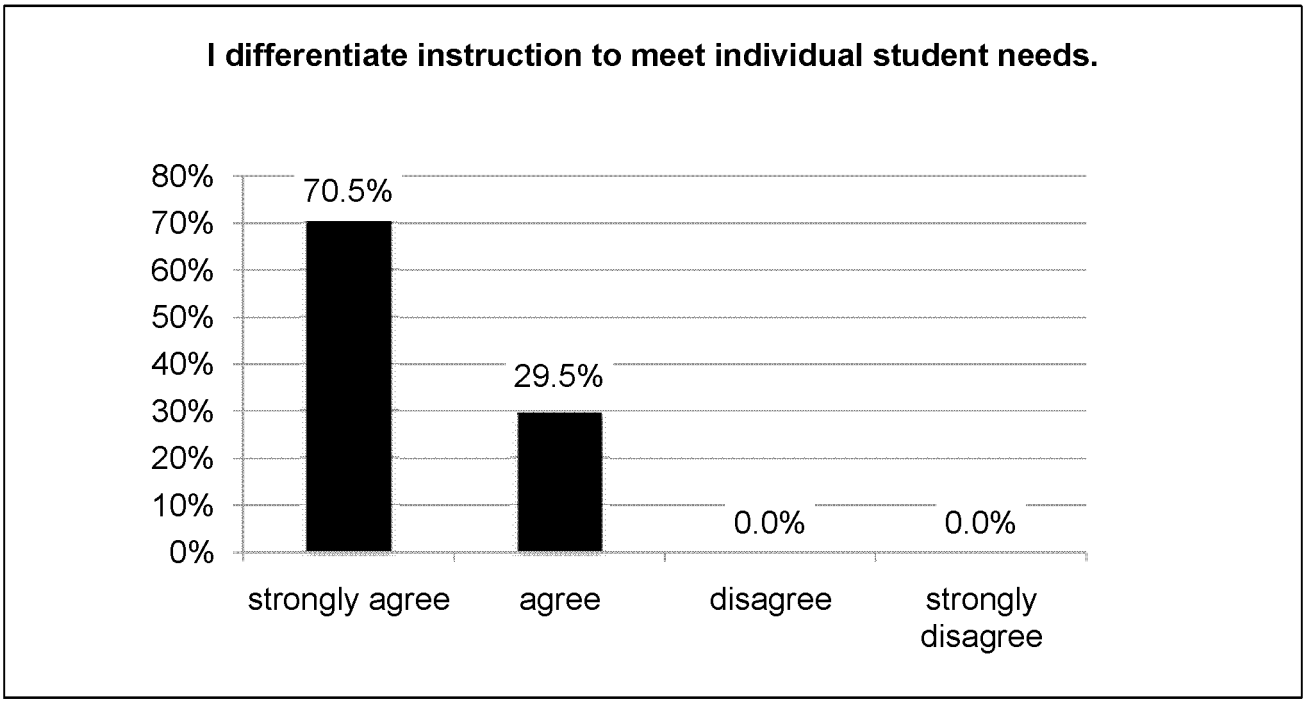

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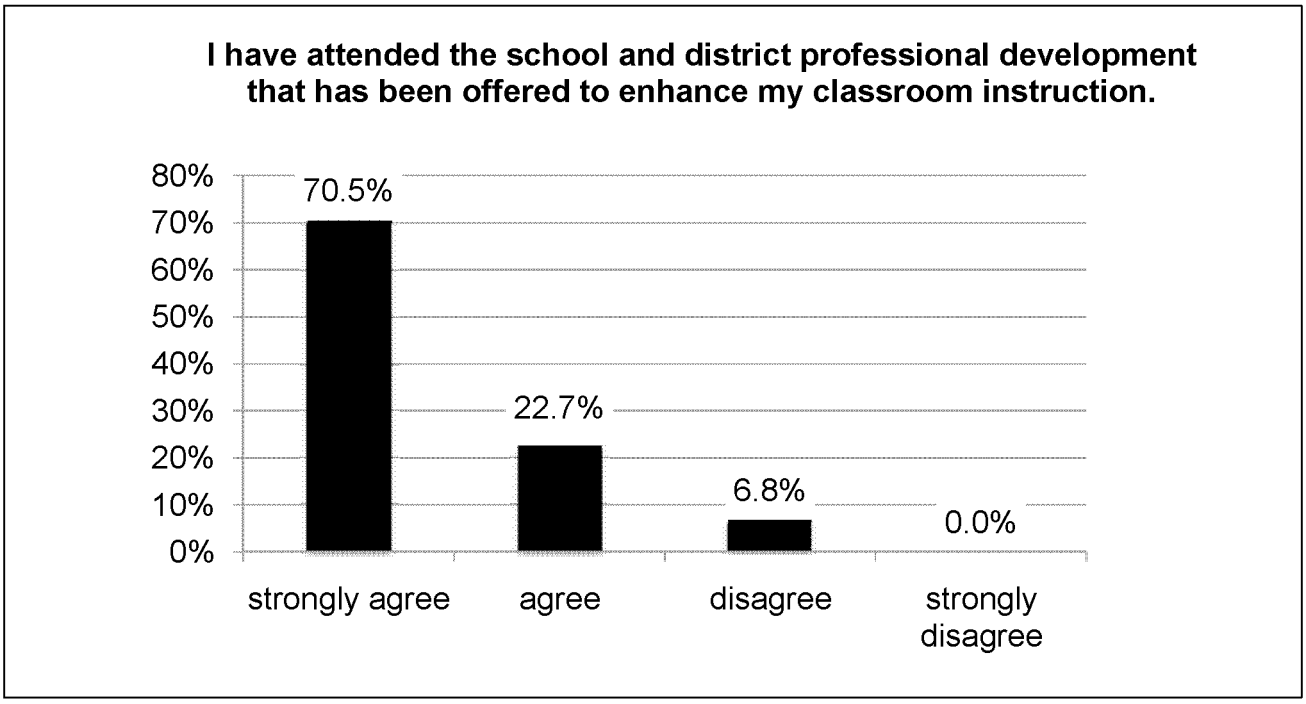

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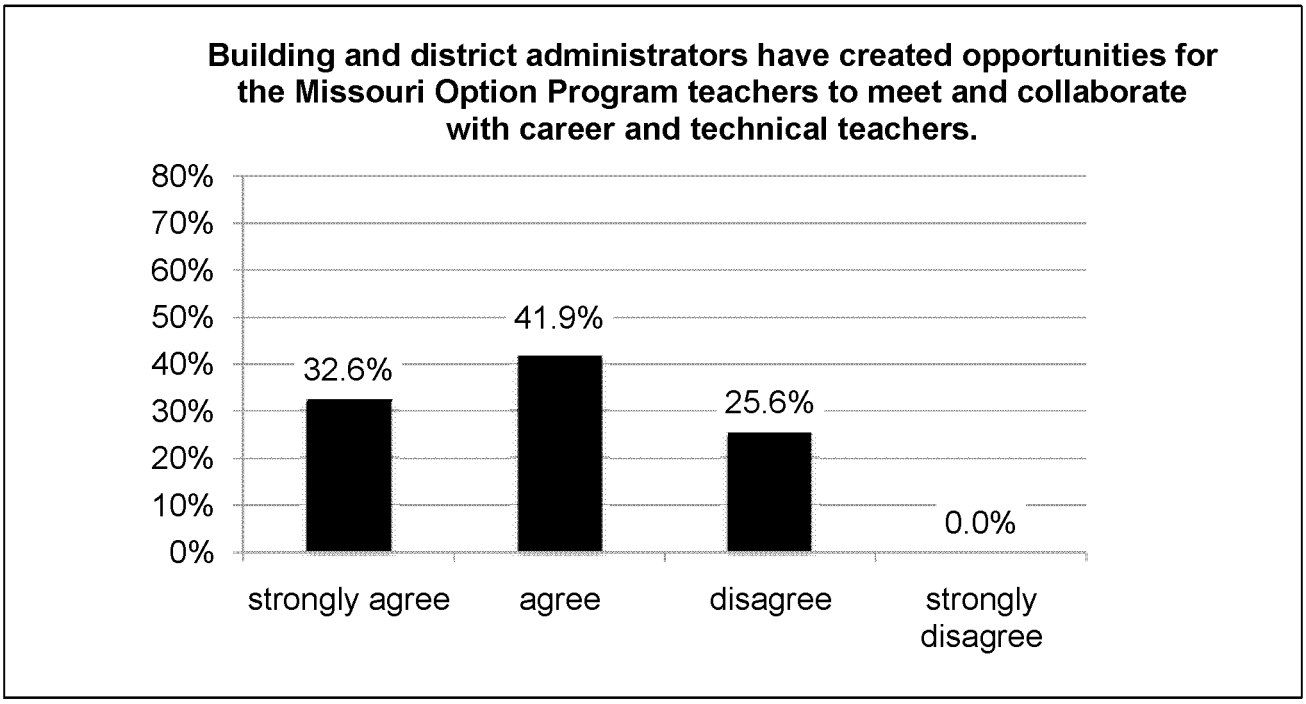

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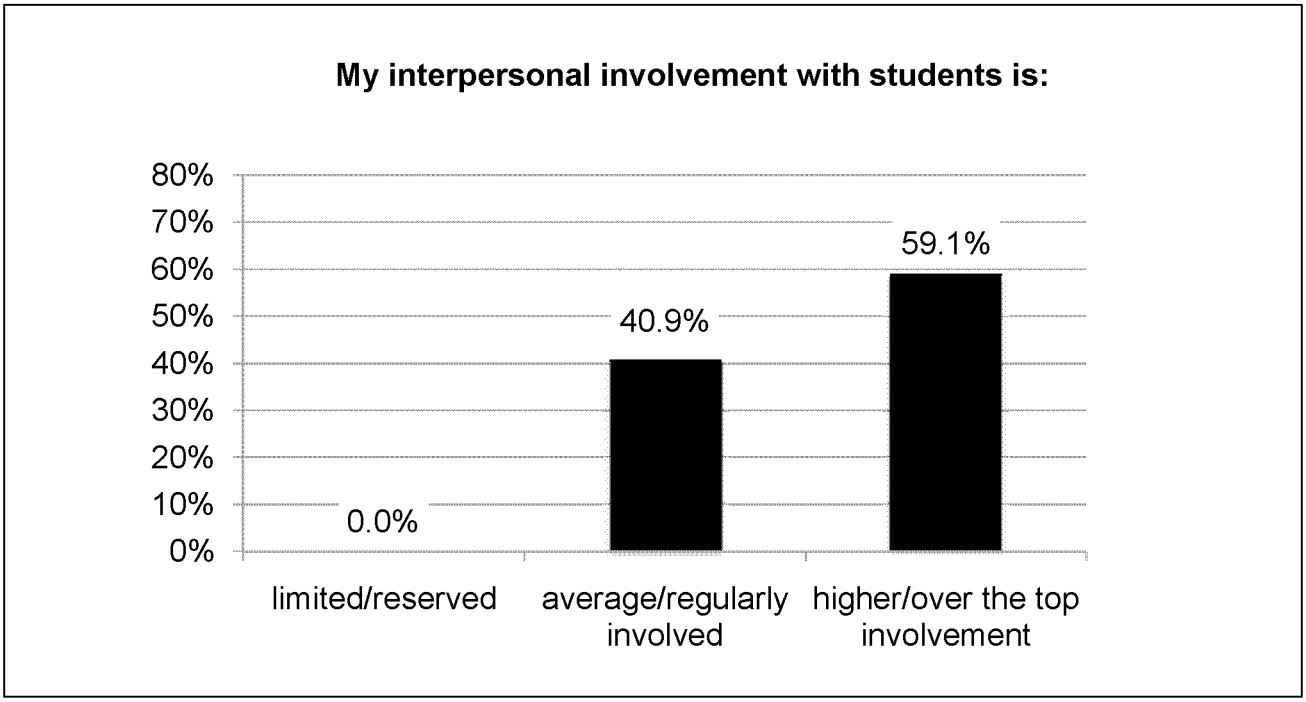

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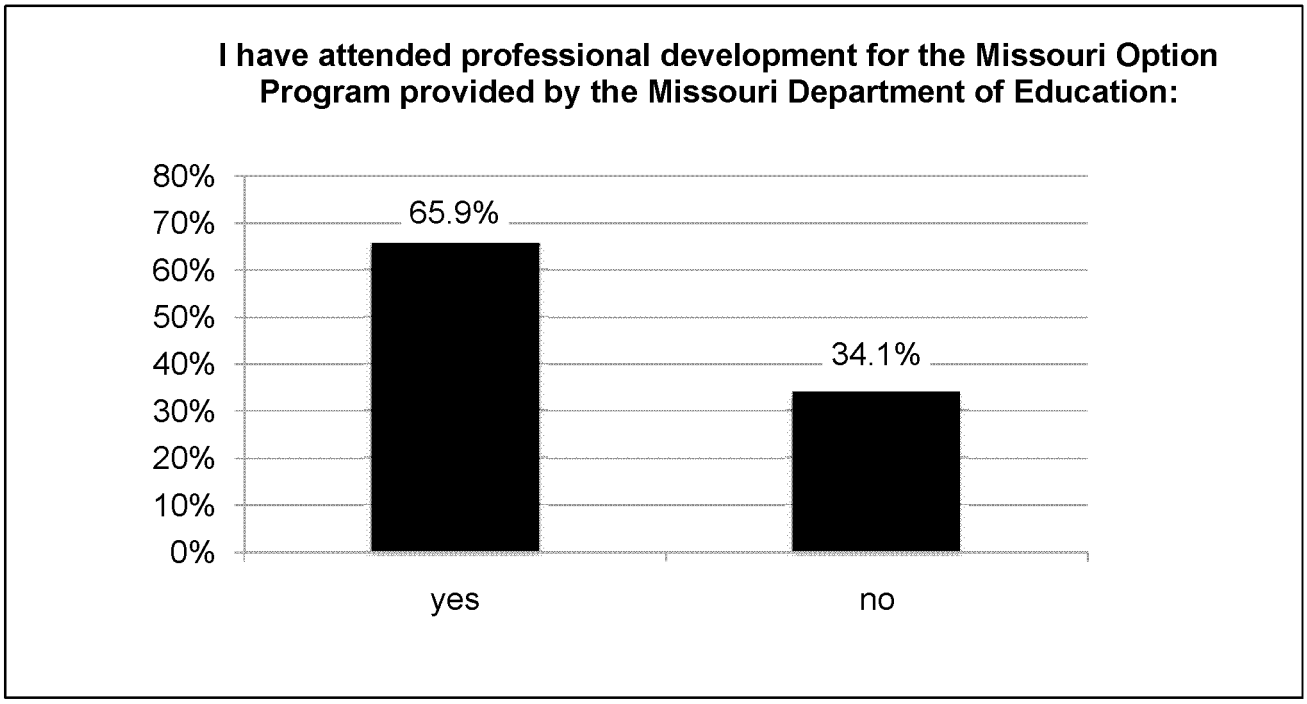
Figure C.10.11 Question 11



(N=45)

C.11 Missouri Preschool Project Survey Results

The Missouri Preschool Project funds support programs that prepare children to the age in which they are eligible to enroll in kindergarten. School districts and private providers are able to apply for funding through a competitive bid process. All contractors are required to license the program with the Department of Health and Senior Services. Contracts are for one year and are renewable.

There are specific assurances that program applicants must meet including teacher certification requirements, number of hours of instruction and implementing an approved curriculum. Preschool programs must implement a nationally recognized preschool curriculum model that is approved by the Missouri Department of Education. The lead teacher and teacher assistant involved in the Missouri Preschool Project must be trained in the curriculum model. It is highly recommended that the director/program administrator be trained in the chosen curriculum model. All curriculum trainings must be provided by the curriculum source. The current approved curriculum models are: Creative Curriculum, High/Scope® or Project Construct.

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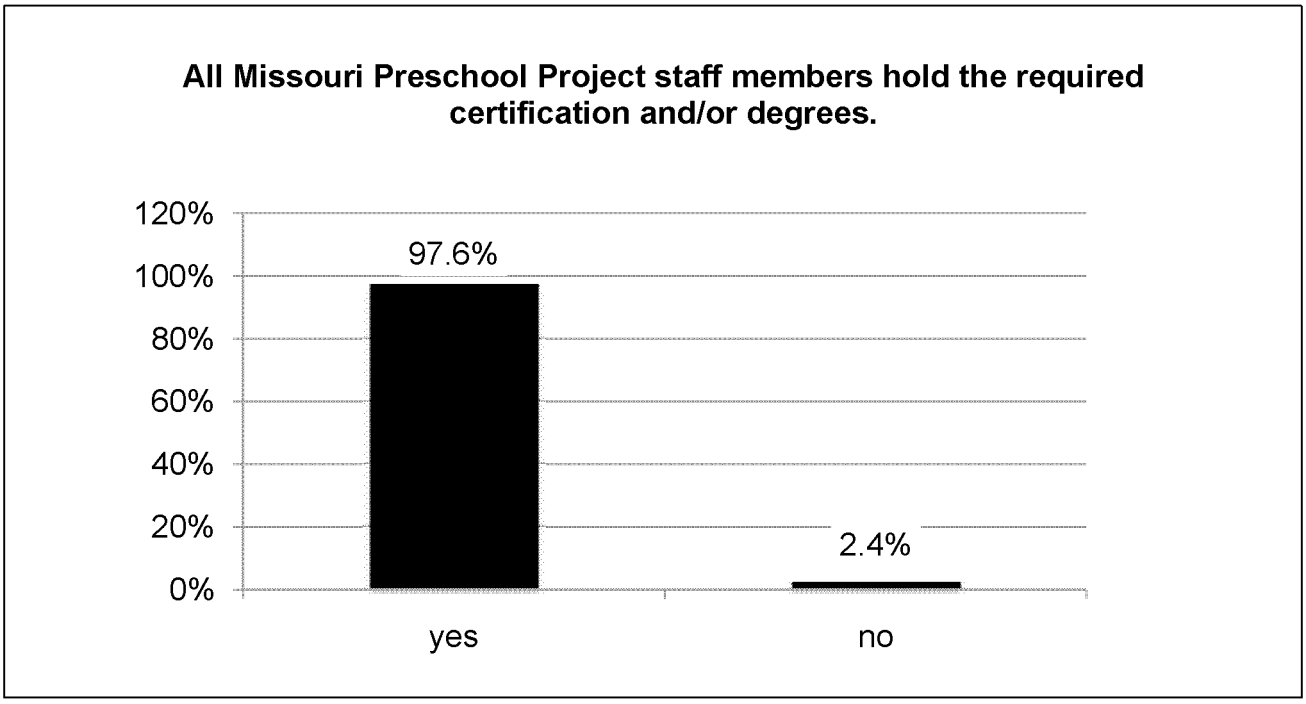

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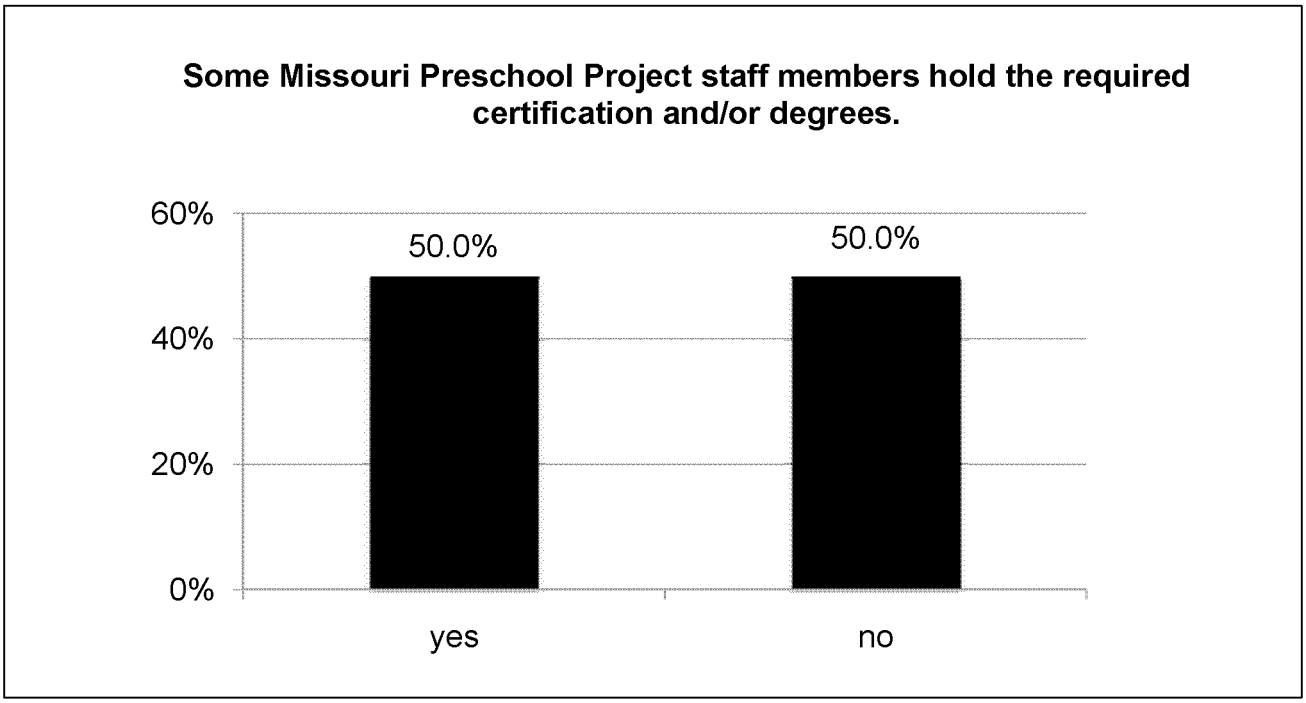

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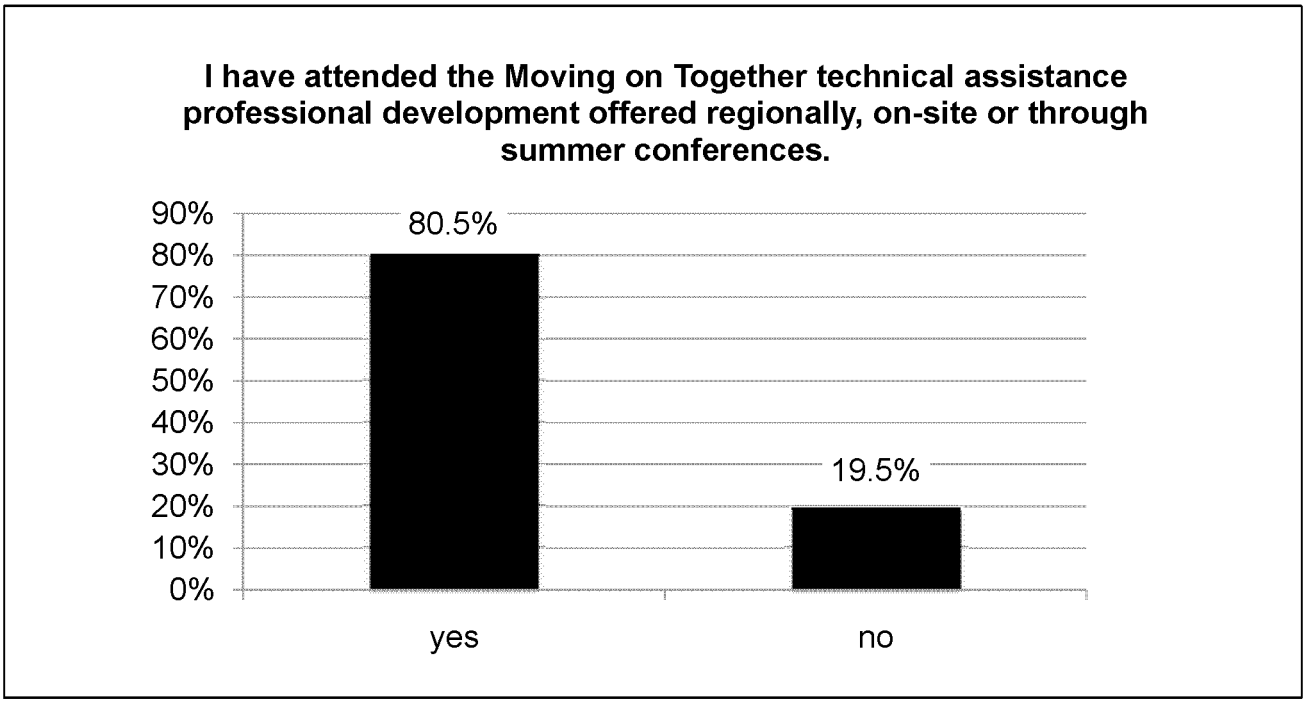

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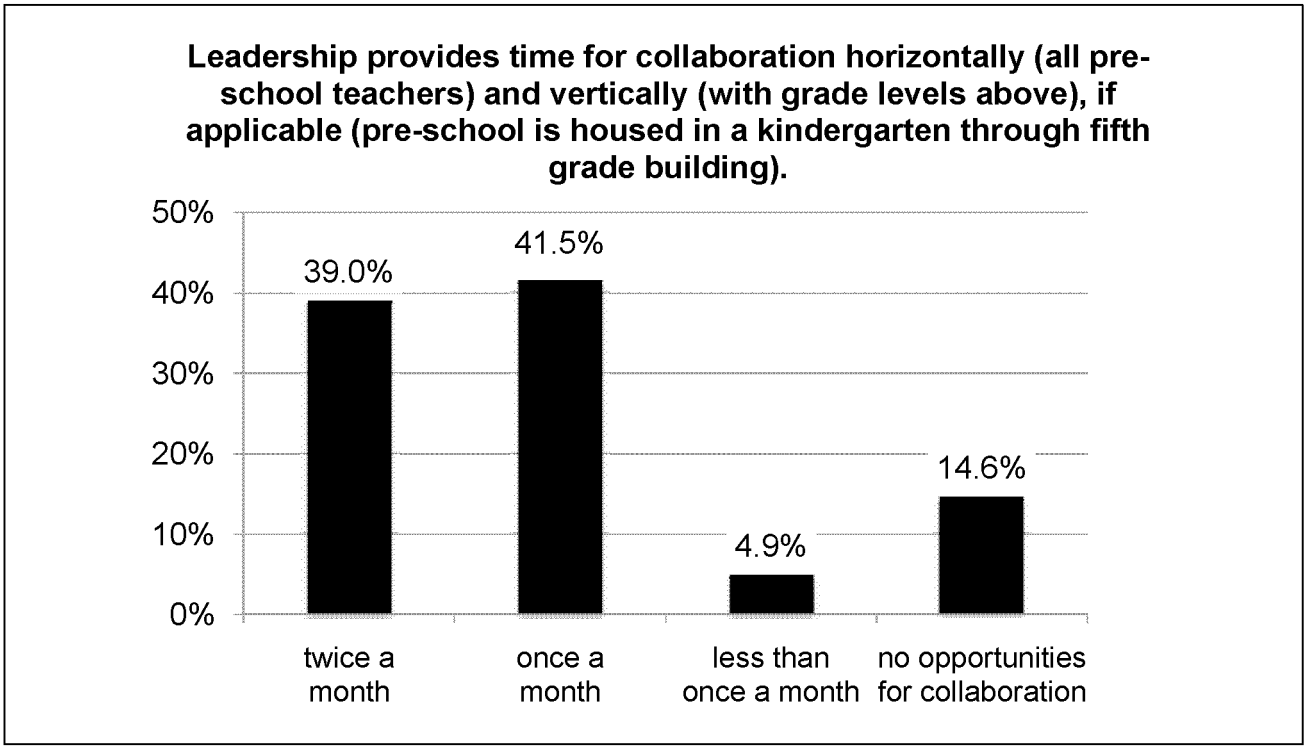

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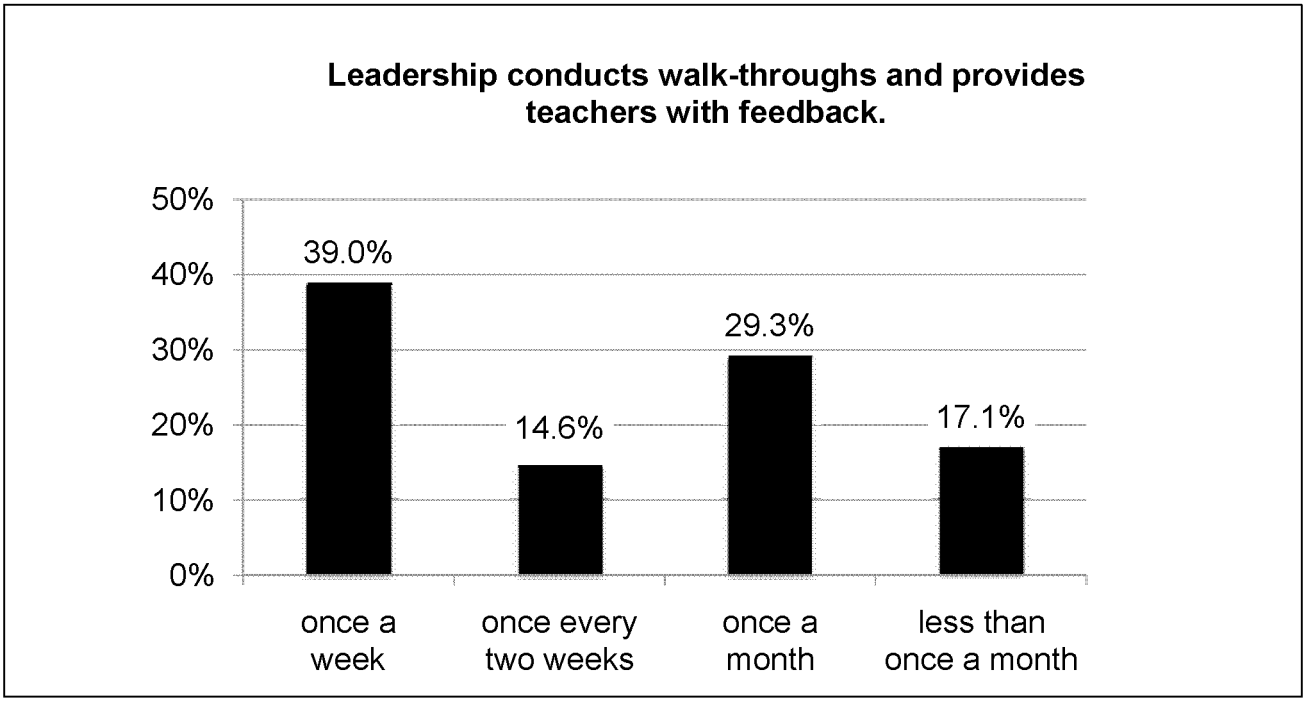

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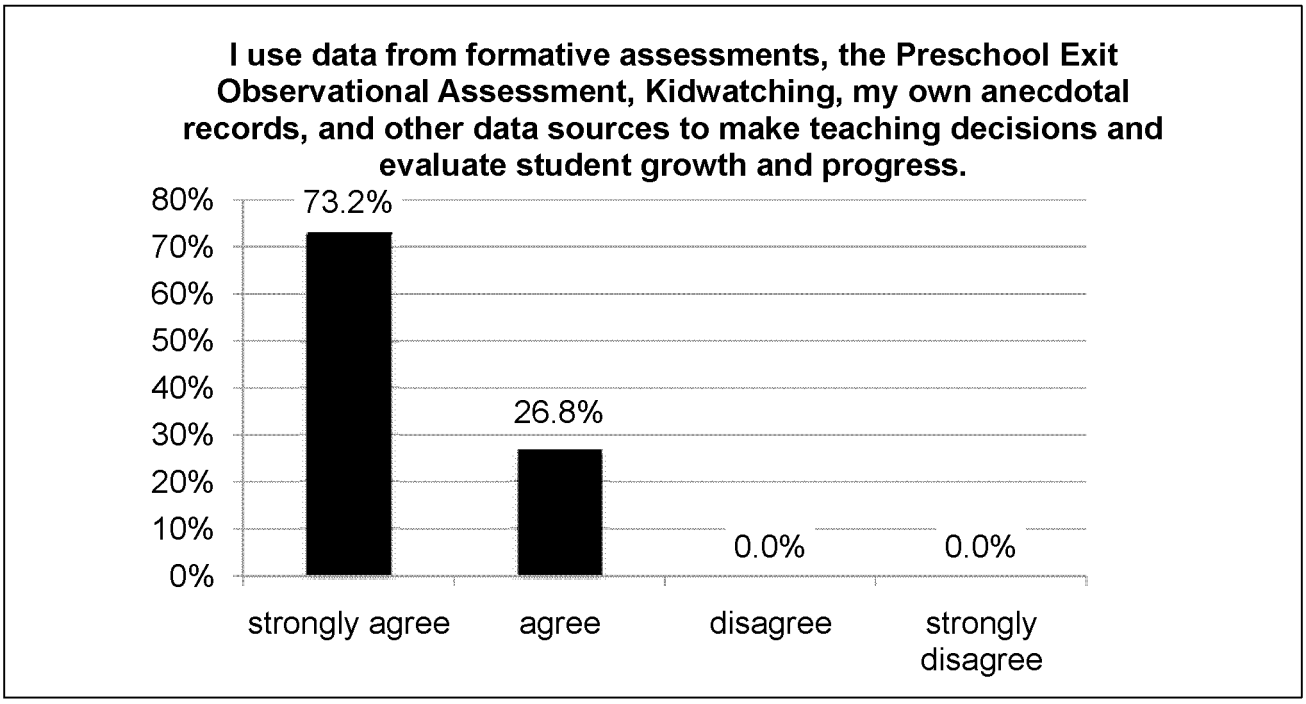

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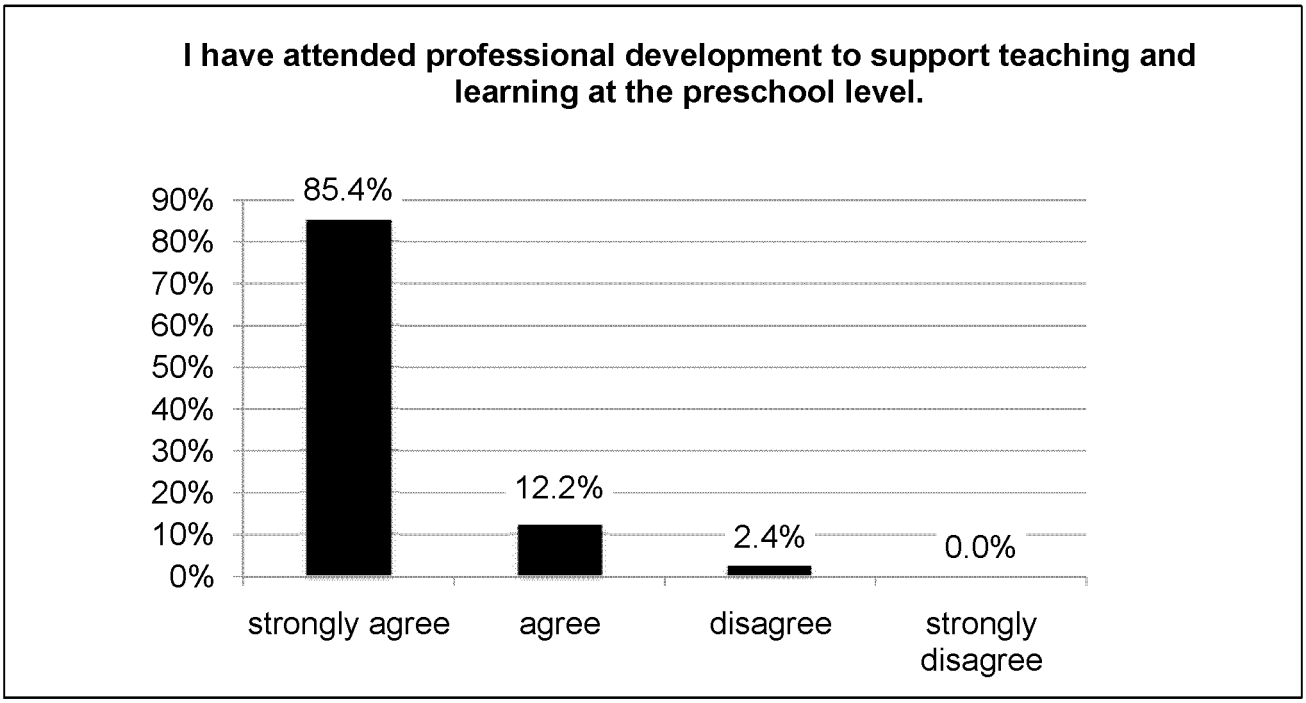

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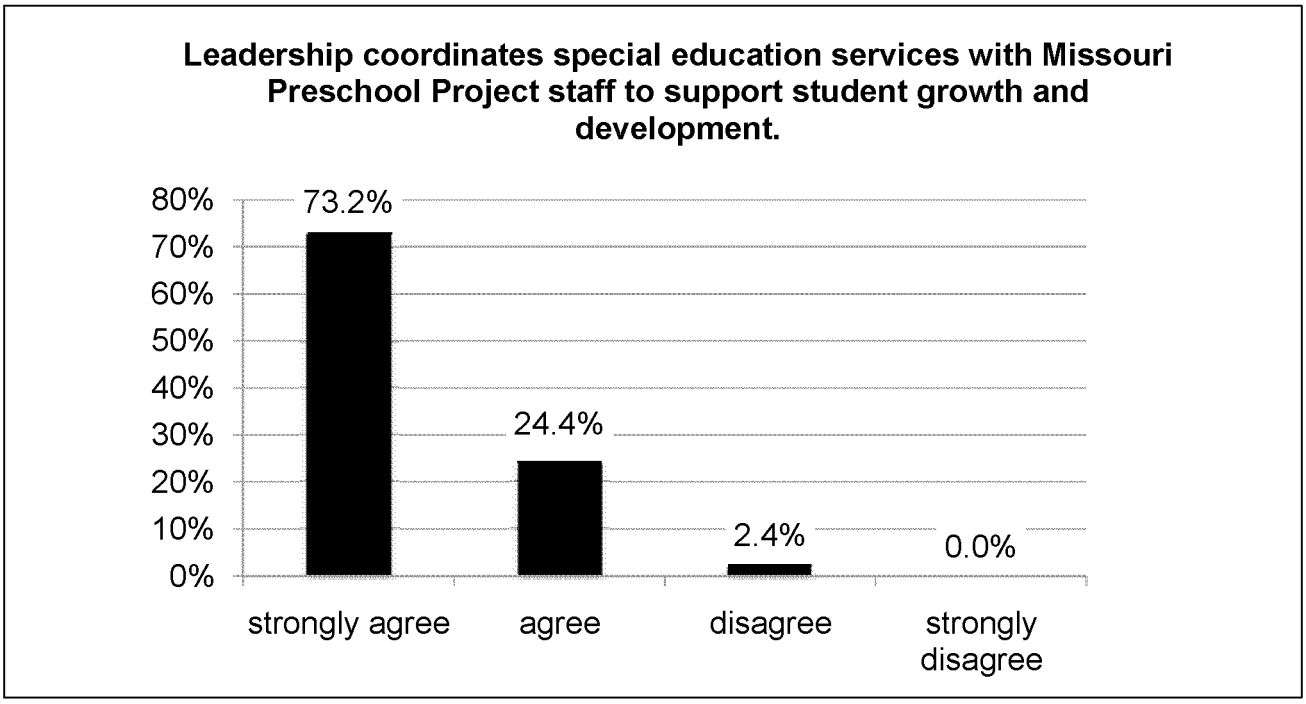

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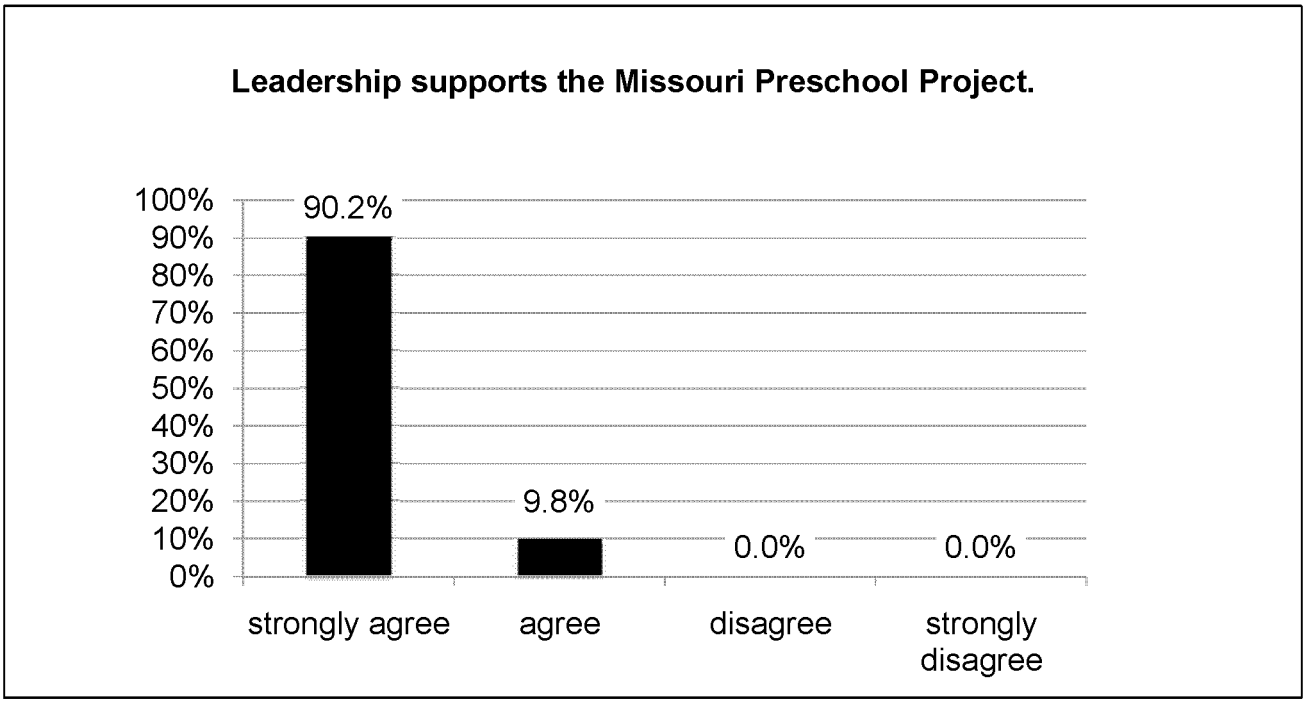

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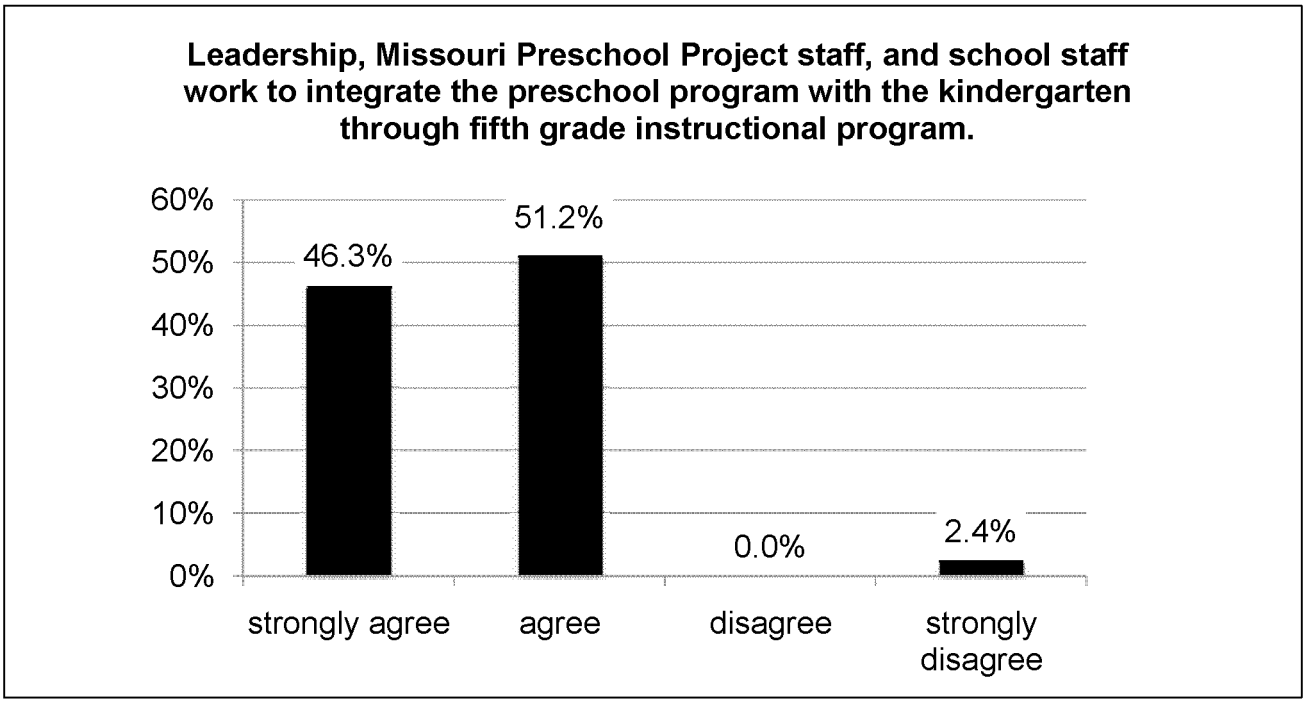

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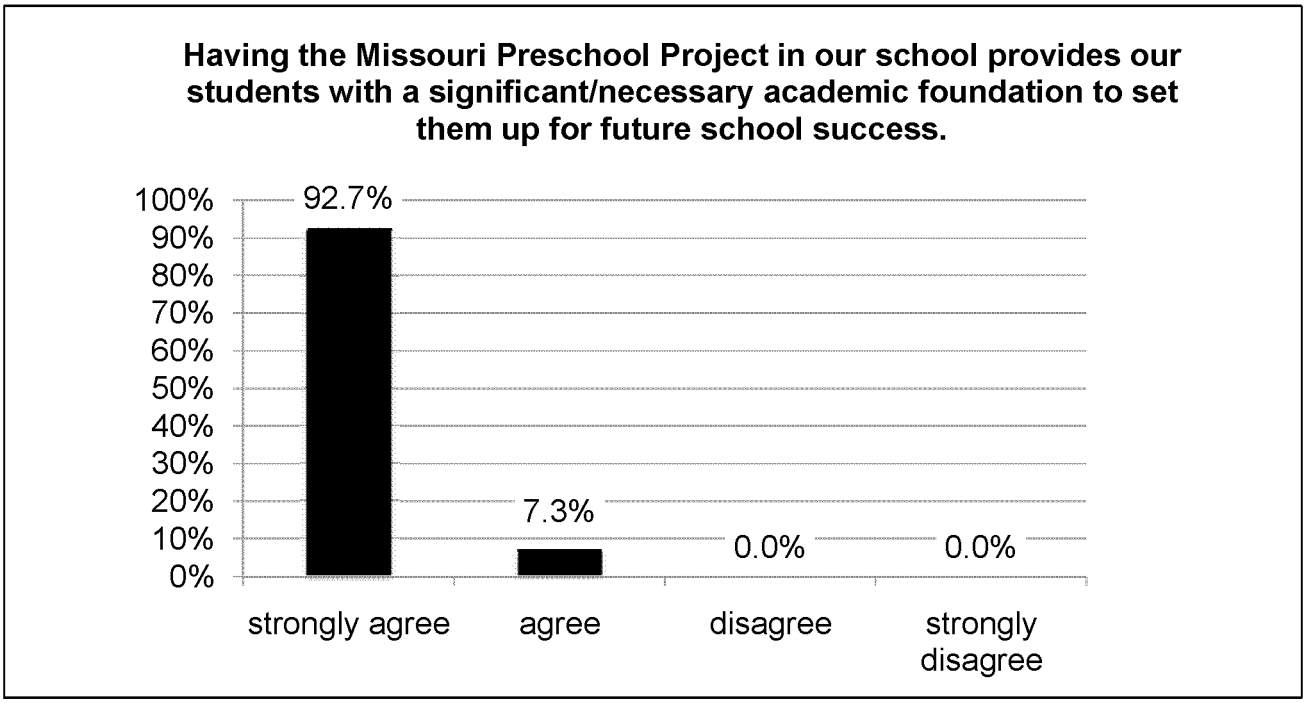

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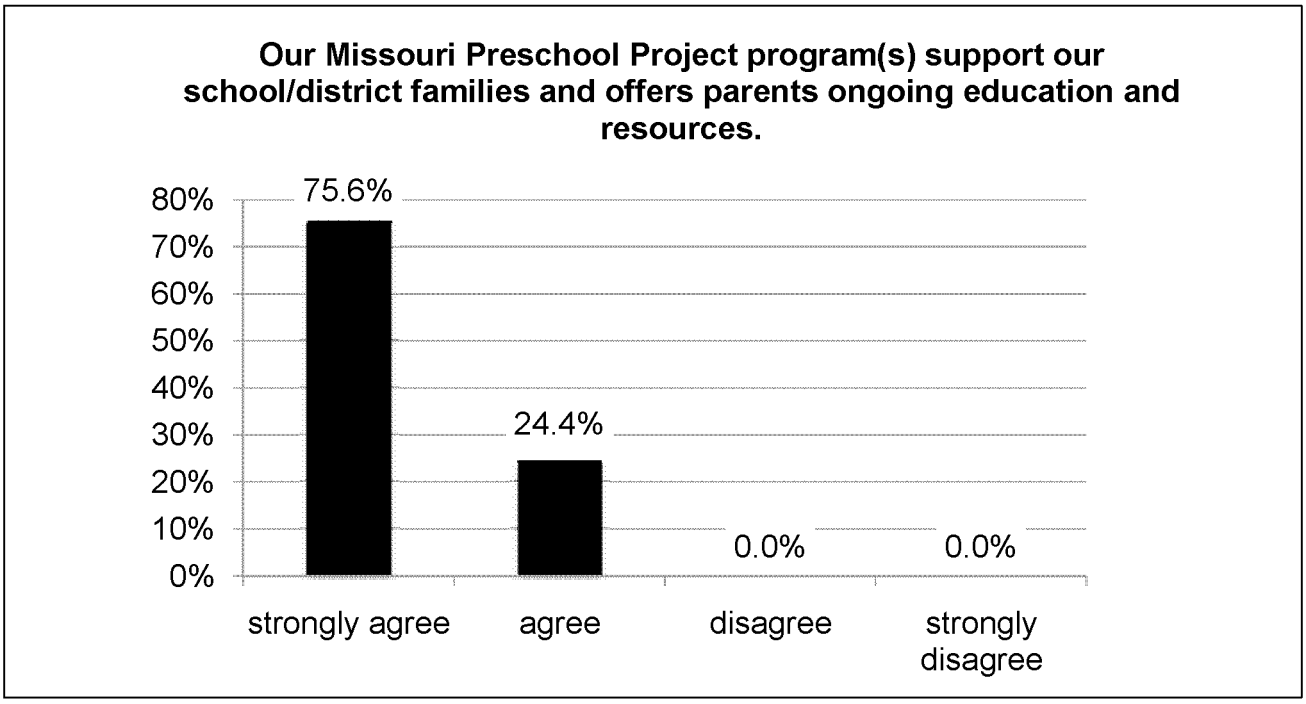


(N=41)

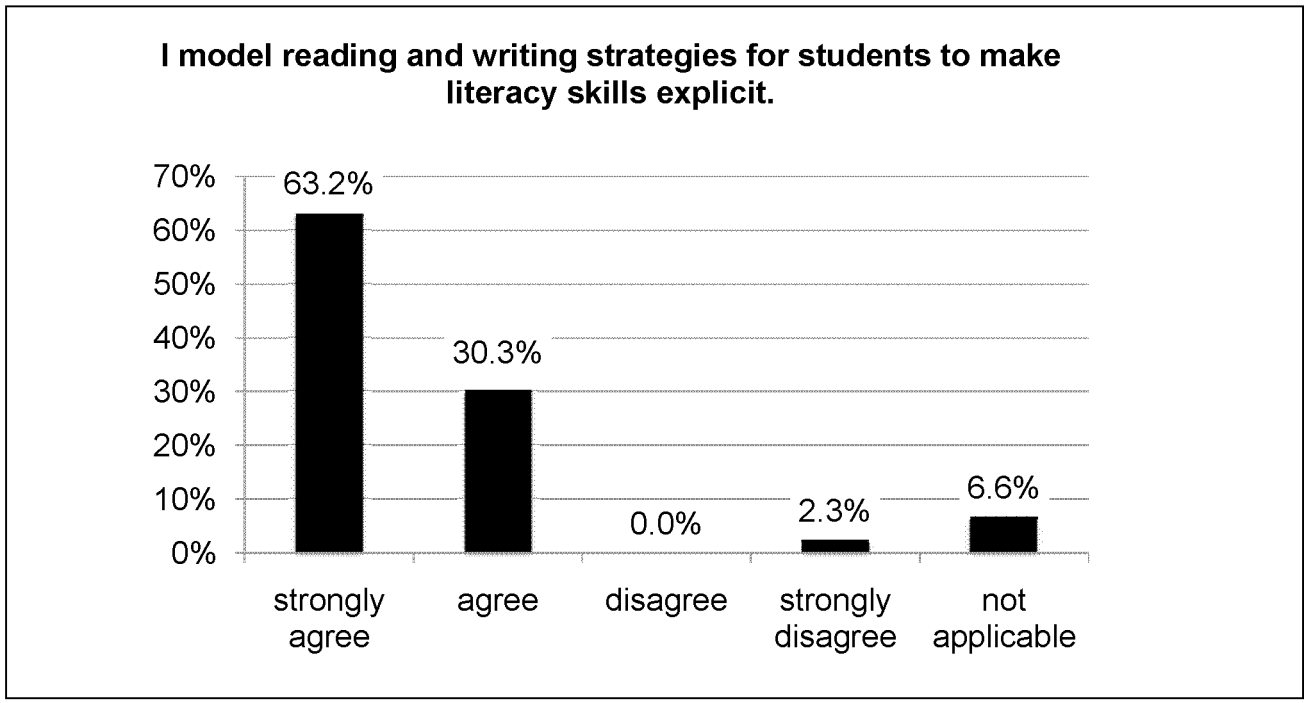
C.12 Missouri Reading Initiative Survey Results

The Missouri Reading Initiative is dedicated to working with Missouri public schools to ensure every student will read and write proficiently. The initiative is a multi-year (minimum three years), on-site, professional development training program in classroom literacy techniques for pre-kindergarten to twelfth grade teachers in Missouri schools. The Missouri Reading Initiative was developed from research-based models of balanced/comprehensive literacy instruction.

The Missouri Reading Initiative also provides trainings for administrators, literacy teams, and literacy coaches statewide. It is also a sponsor of an annual literacy conference that draws nationally recognized experts in literacy to Missouri.

The Missouri Reading Initiative training is consistent with the National Staff Development Council's standards for professional development, three-tiered models, Response to Intervention, and high-quality professional development as defined by the Missouri Department of Education.

Figure C.12.1 Question 1



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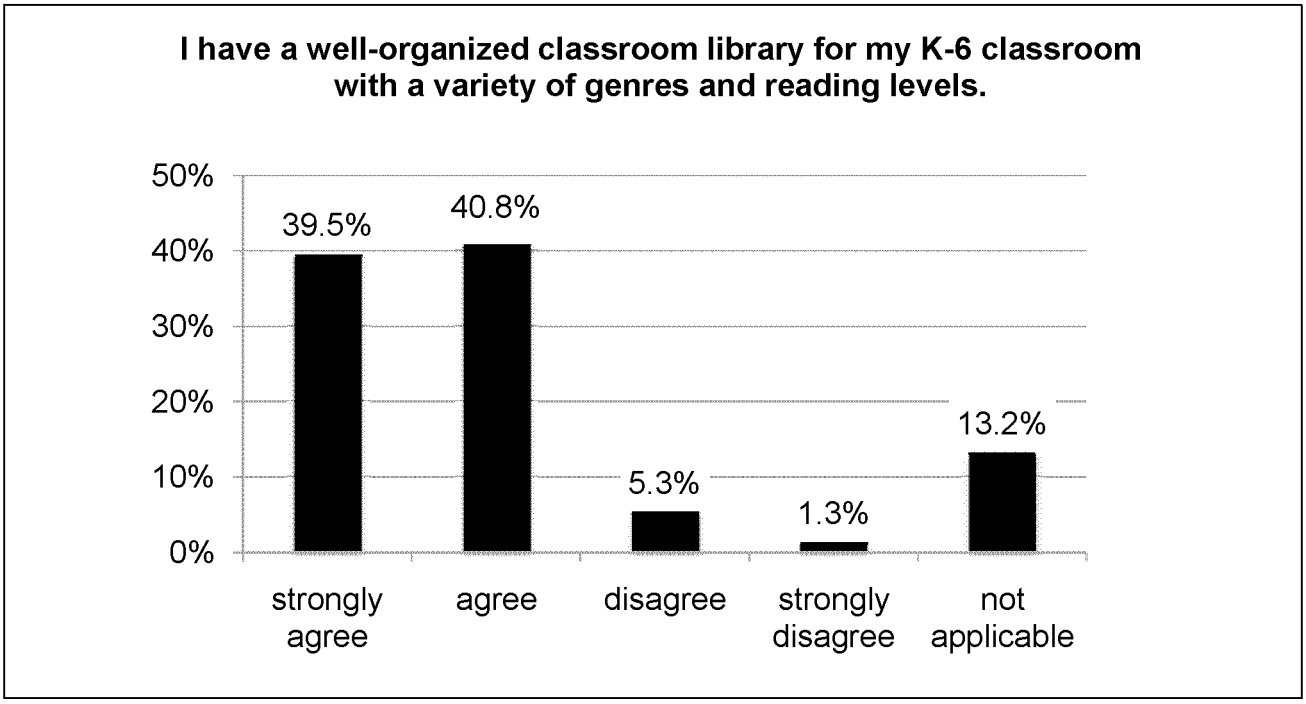

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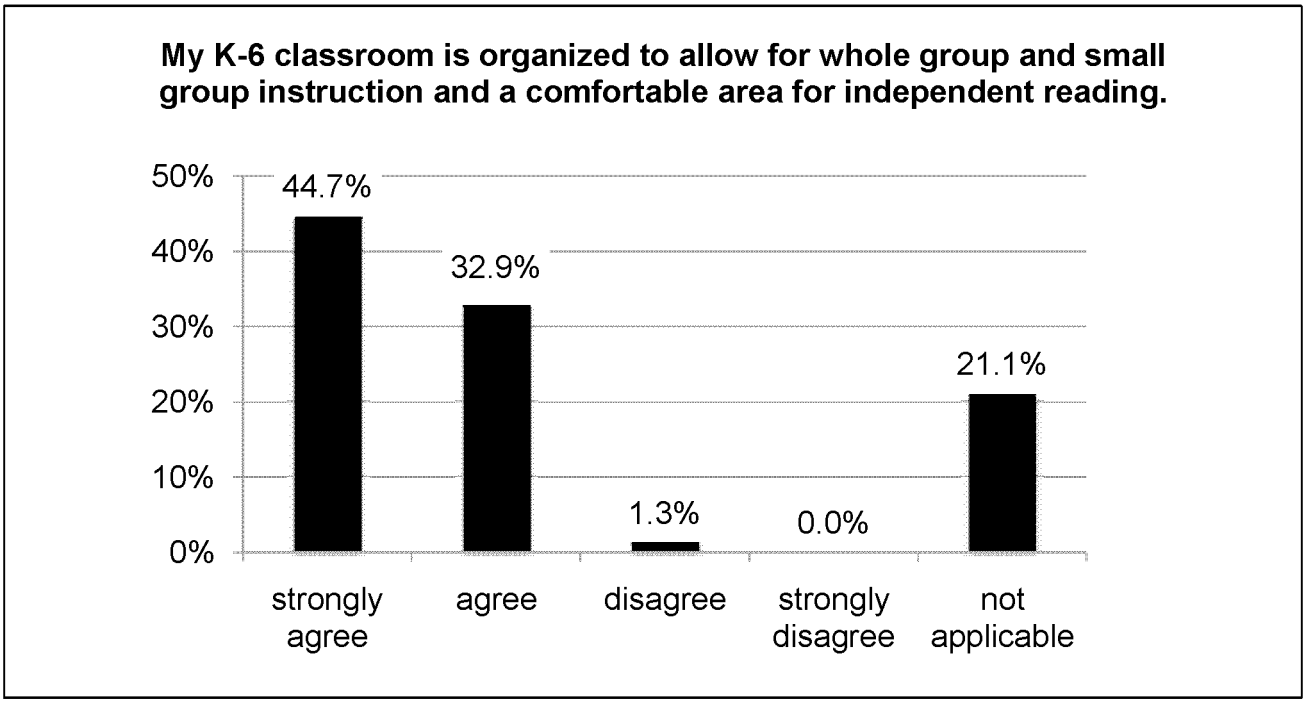

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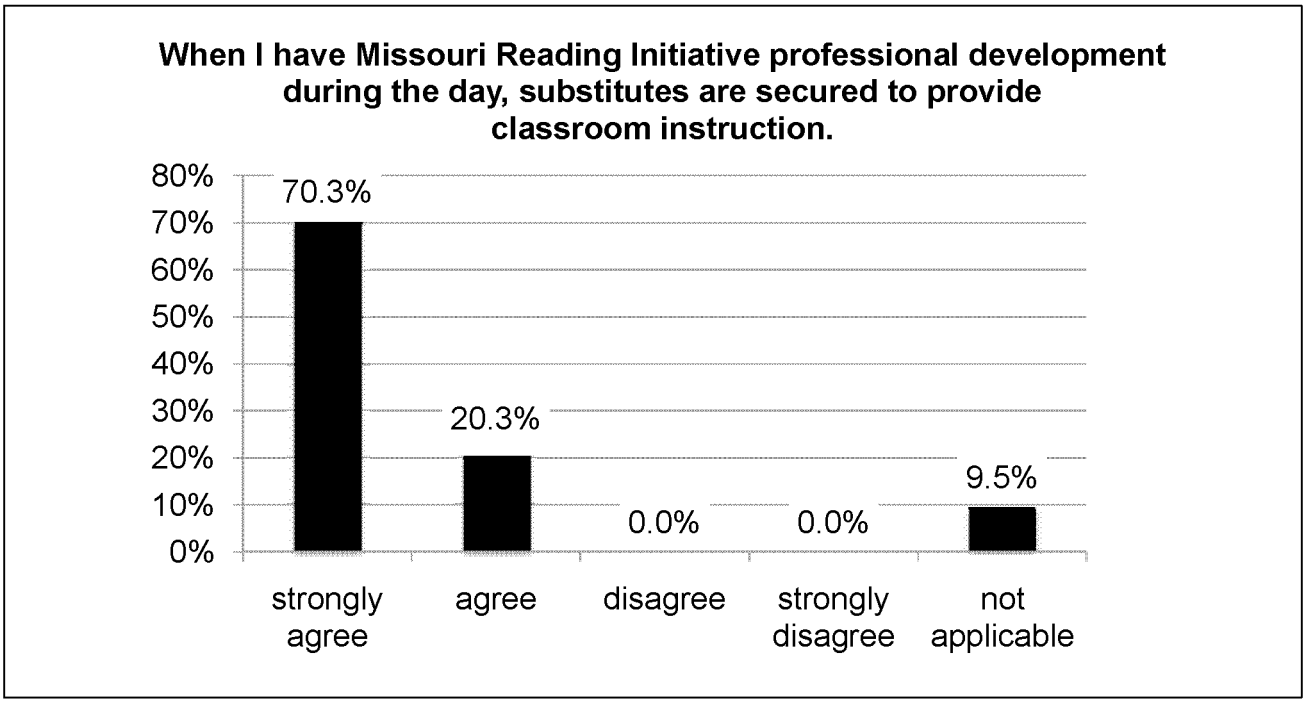

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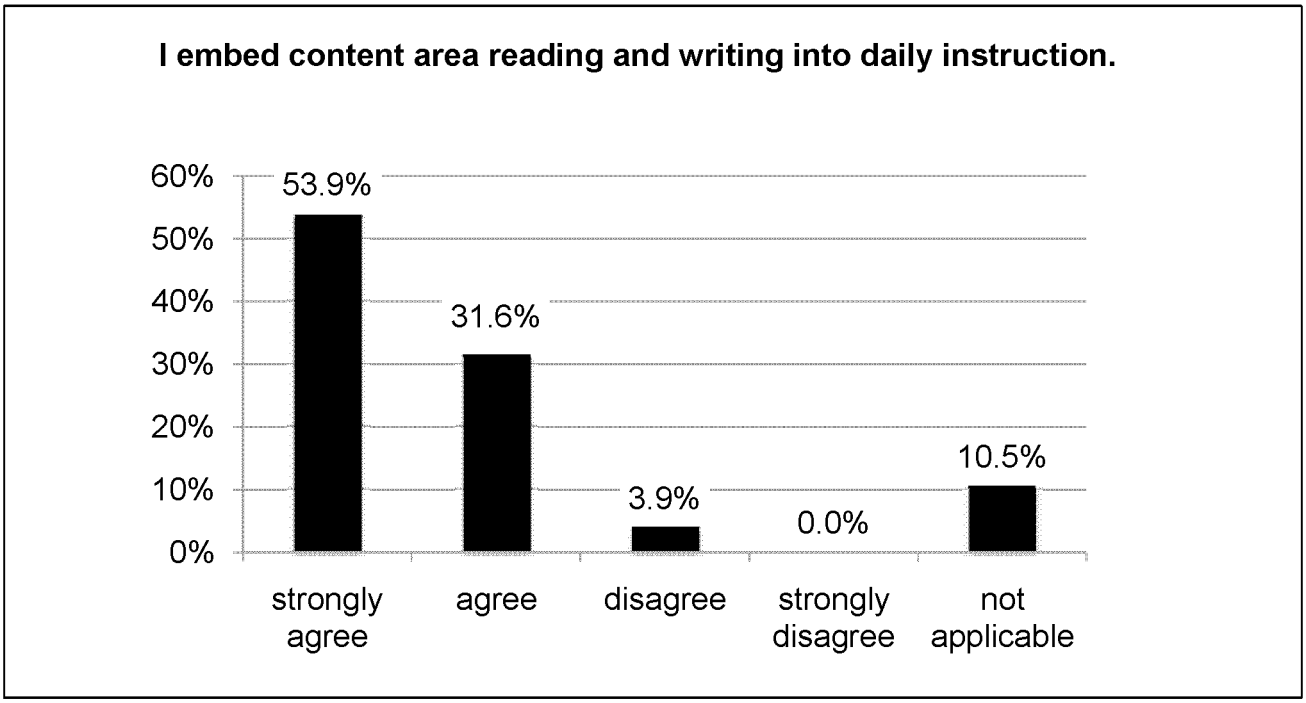

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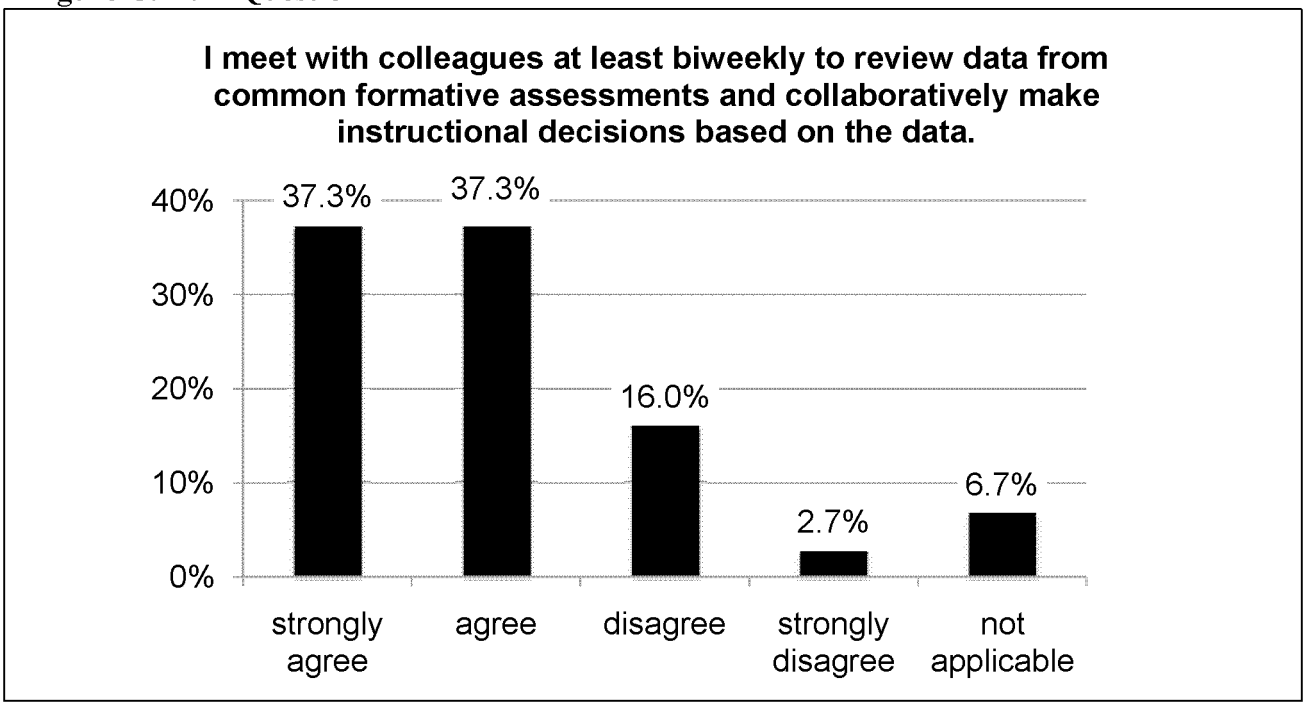

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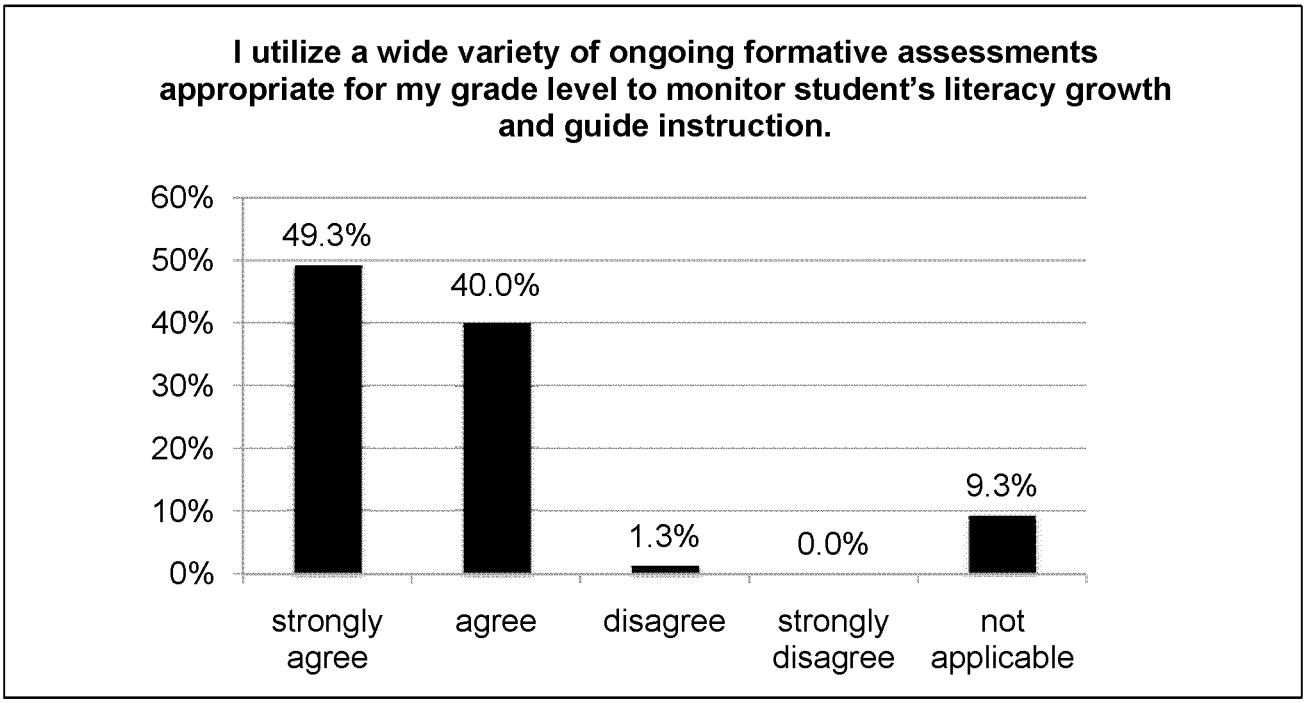
Figure C.12.7 Question 7



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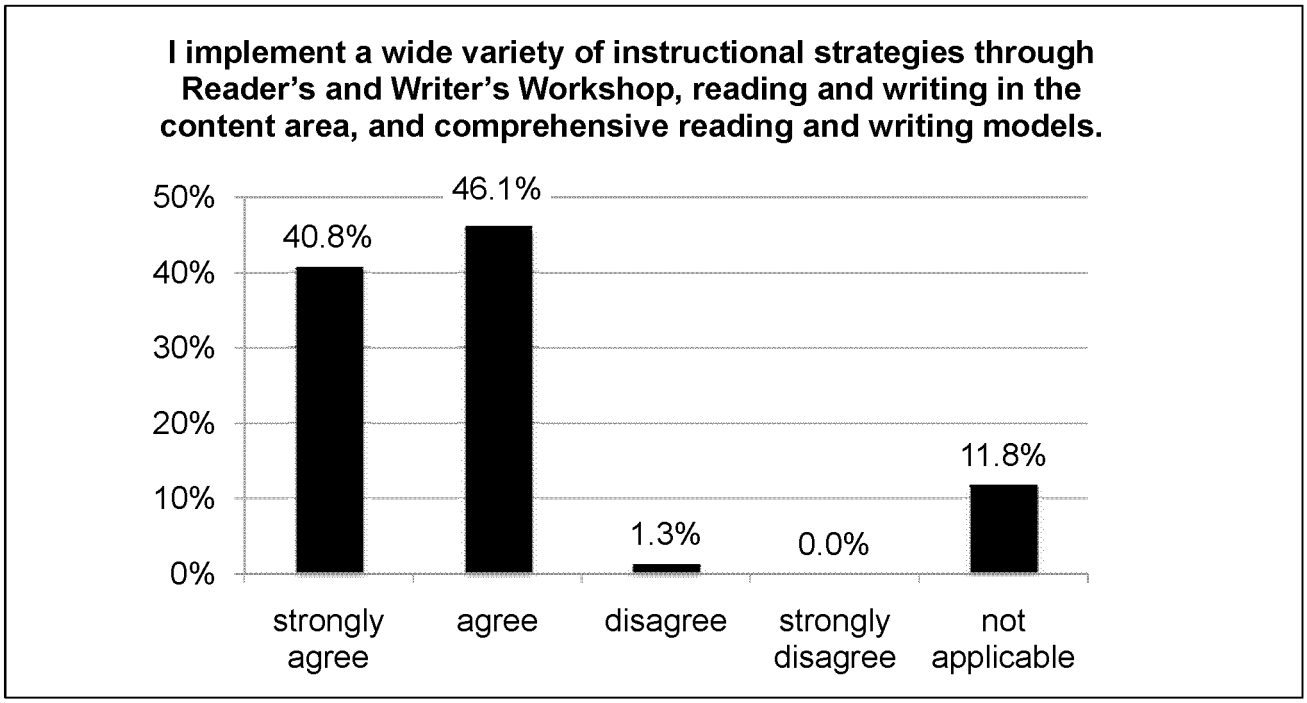

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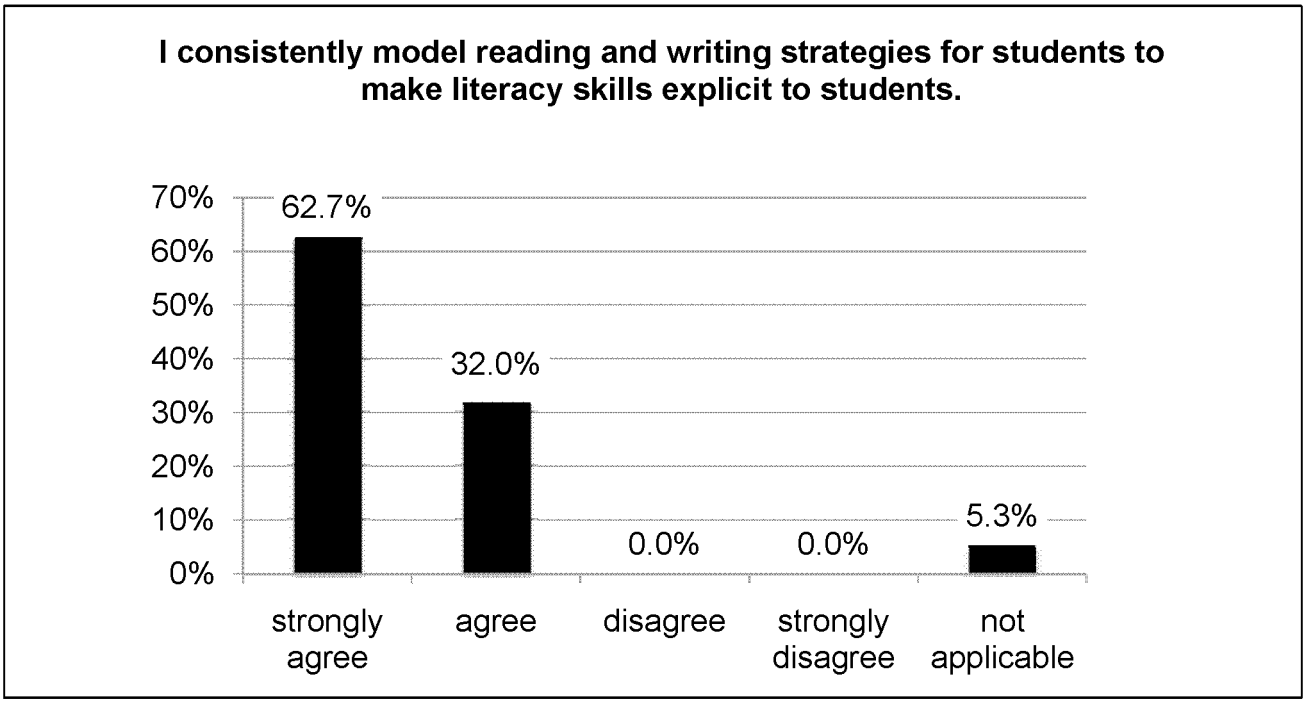

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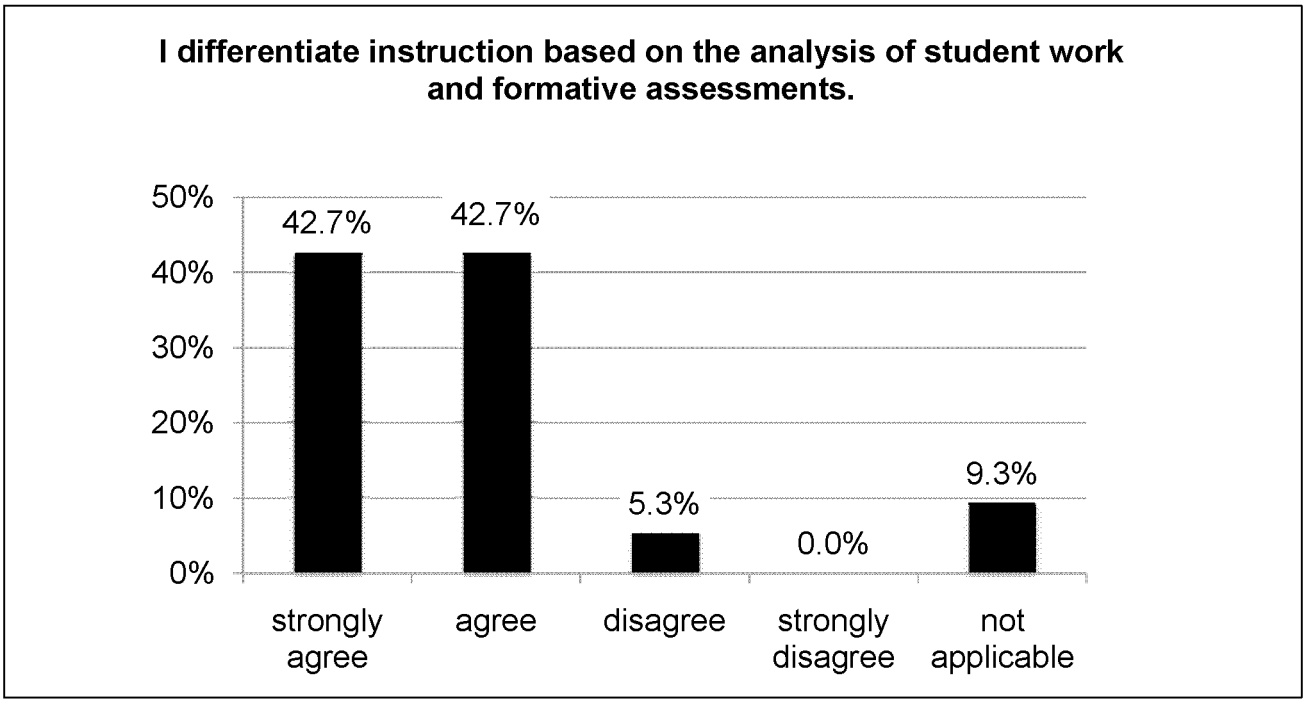

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Figure C.12.11 Question 11

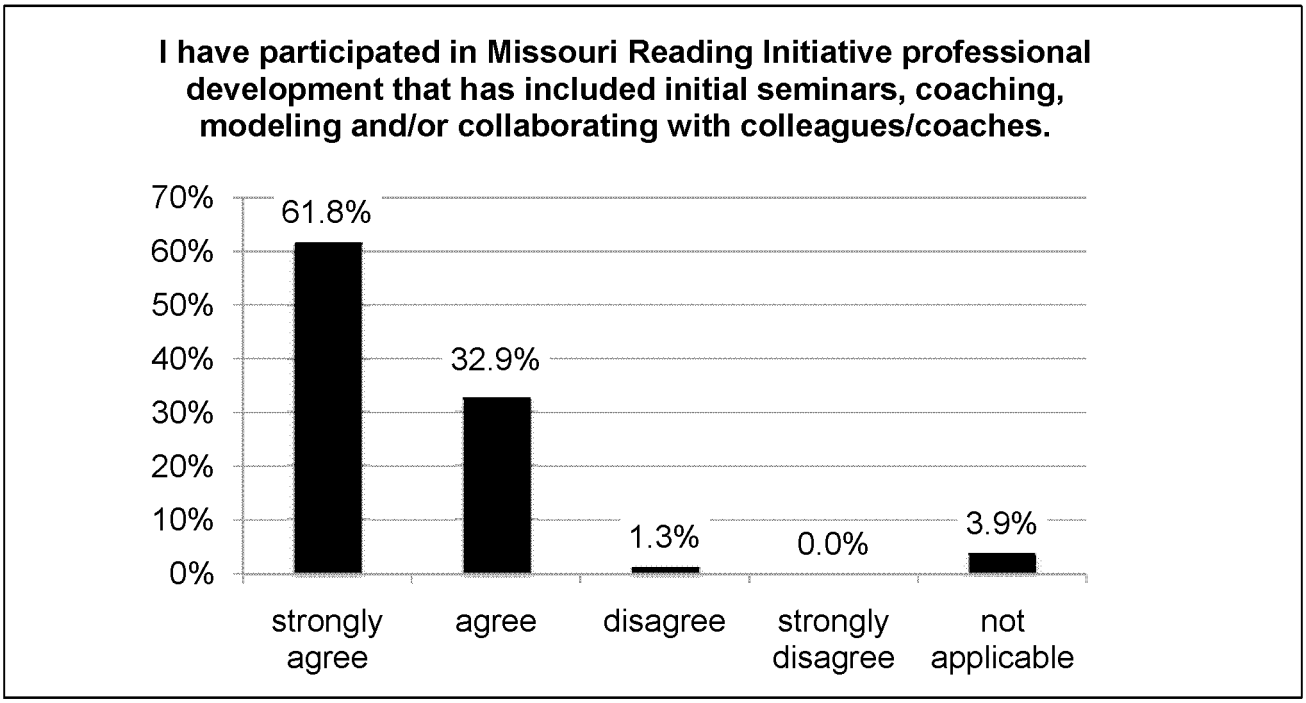

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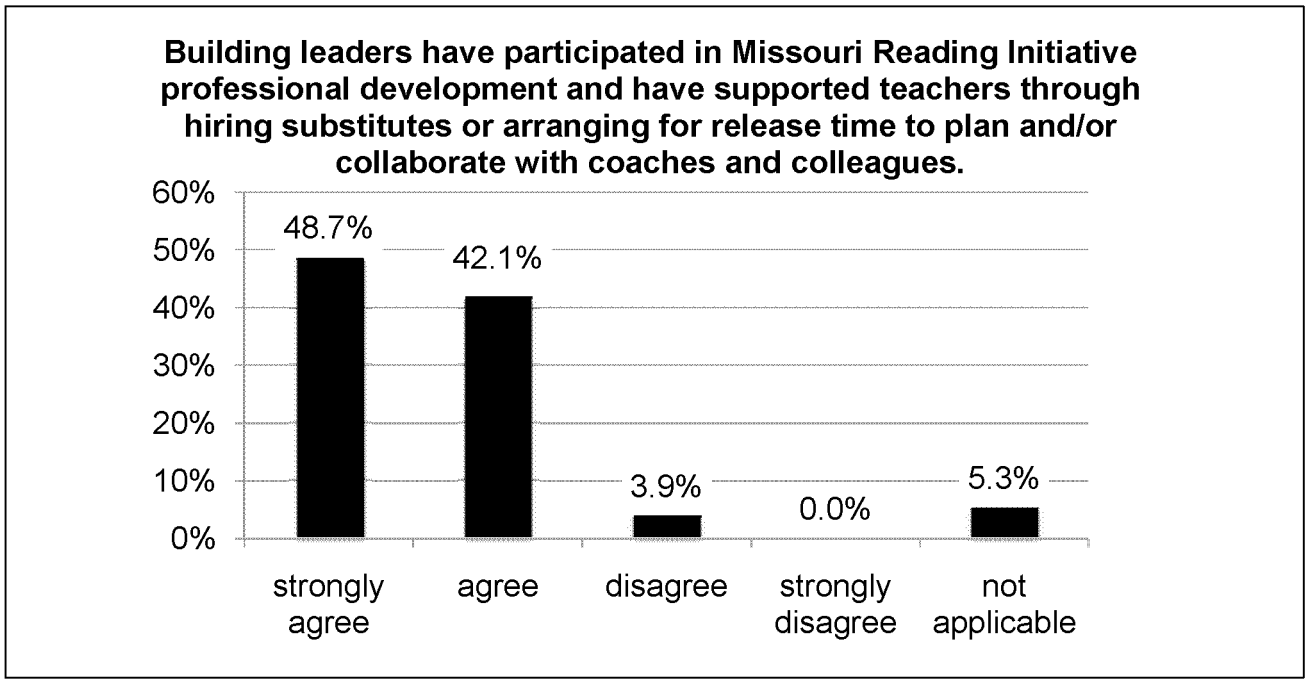
Figure C.12.12 Question 12



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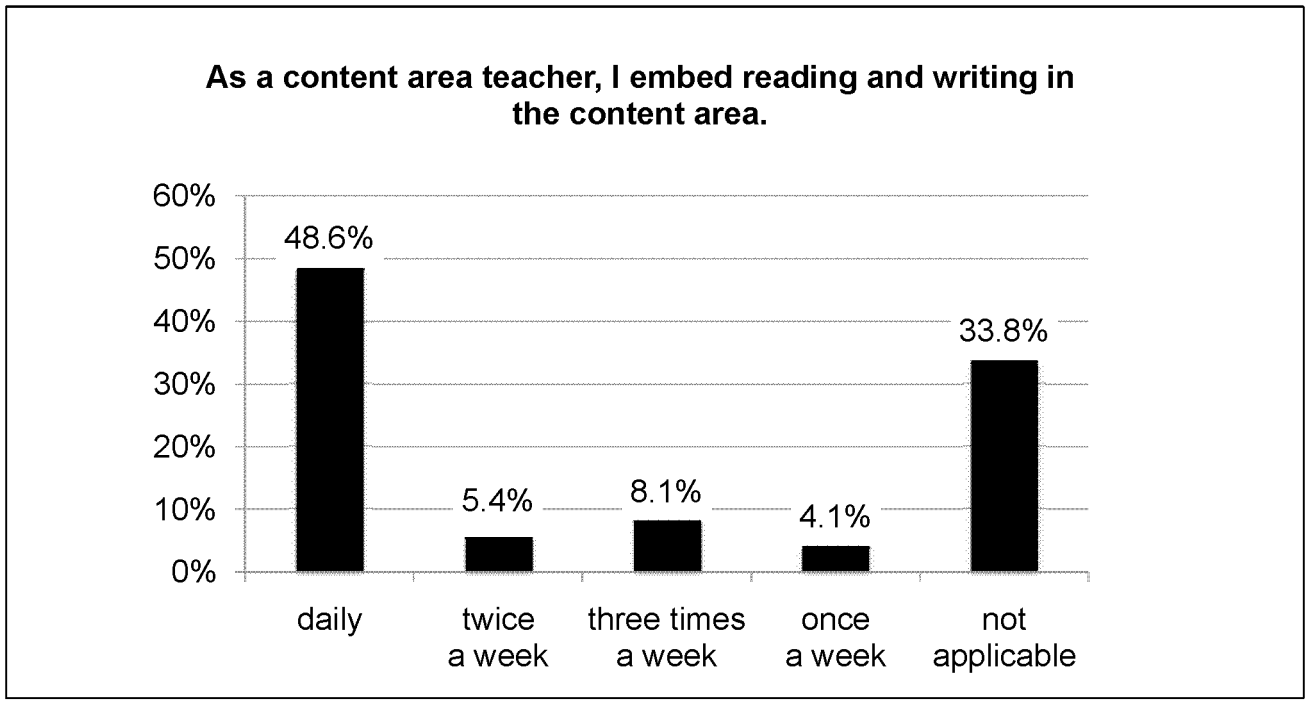

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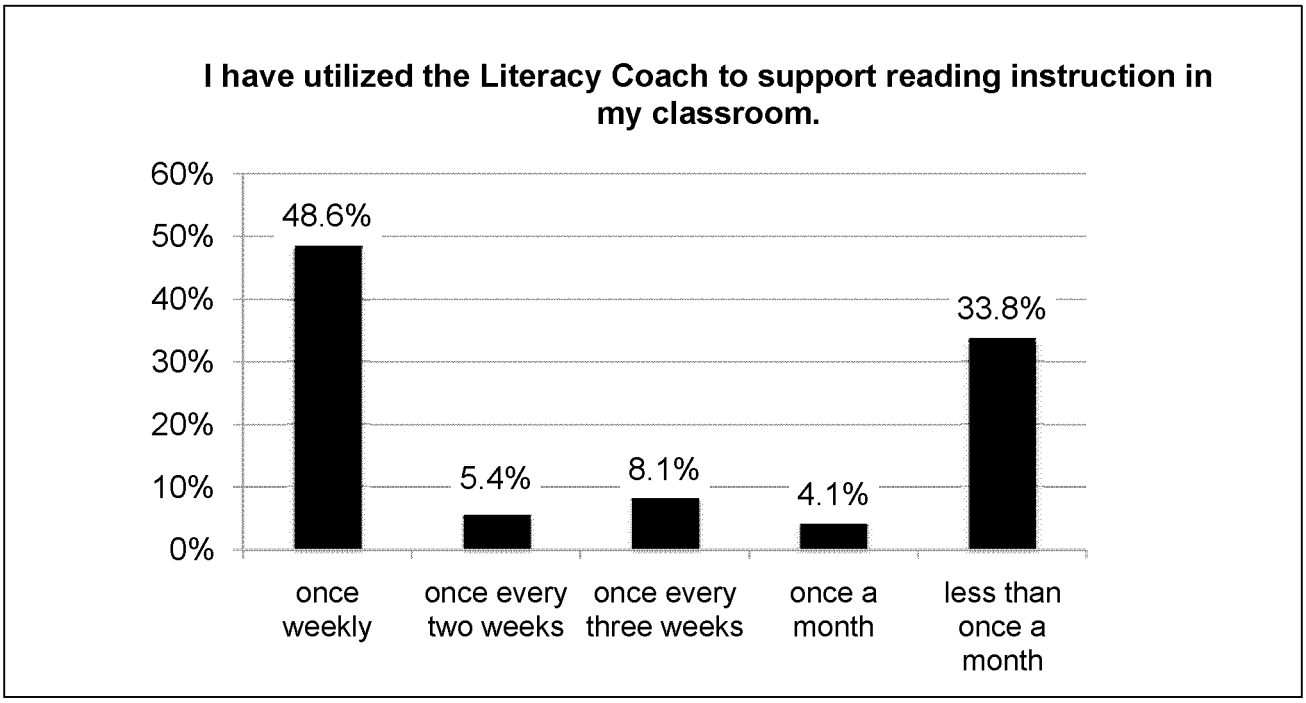

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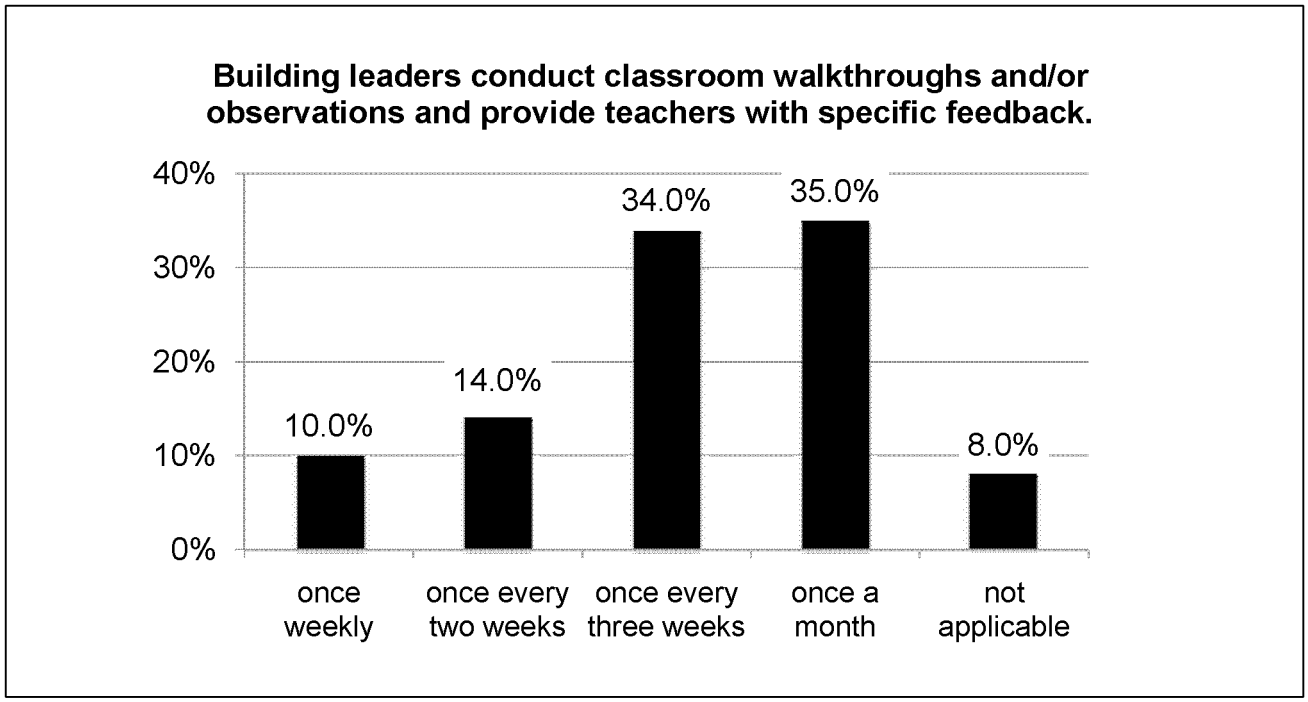


(N=6)

C.13 Missouri Virtual Instructional Program Survey Results

The Missouri Virtual Instructional Program is an alternative instructional delivery method in which students receive education instruction online. The Missouri Virtual Instructional Program provides online education to students with the following needs:

- Students wanting advance classes that may not be available in their home school.
- Students who are medically fragile and are unable to attend school.
- Students who cannot take a course because of a shortage of certified teachers, typically in rural areas.
- Students with scheduling conflicts.
- Students with credit recovery needs.
- Students with special needs.
- Students who are at-risk or have dropped out of school.
- Students who are unable to receive gifted instruction in their home school.
- Students who are currently outside of the state.

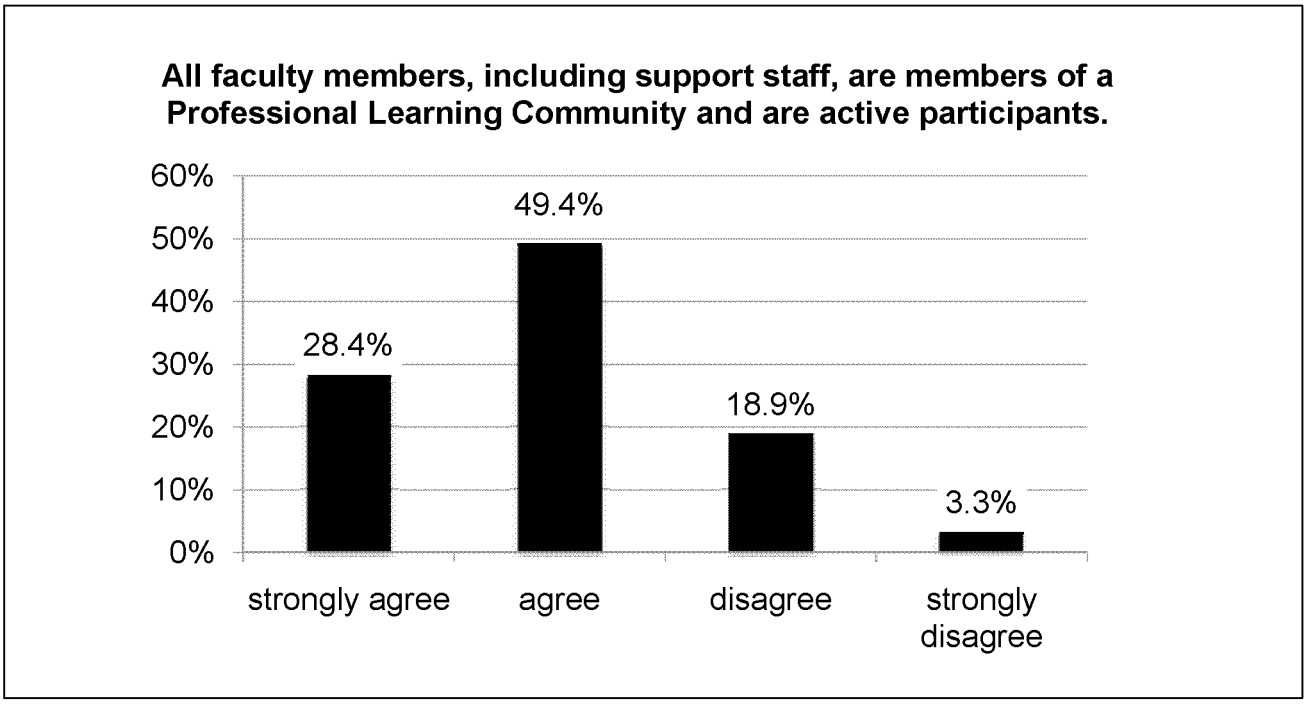
There were no survey respondents for this particular initiative.

**No survey data available

C.14 Professional Learning Communities Survey Results

The Missouri Professional Learning Communities Project is a comprehensive school improvement program that offers guidance to Missouri schools in their efforts to focus on the fundamental purpose of school.

Figure C.14.1 Question 1



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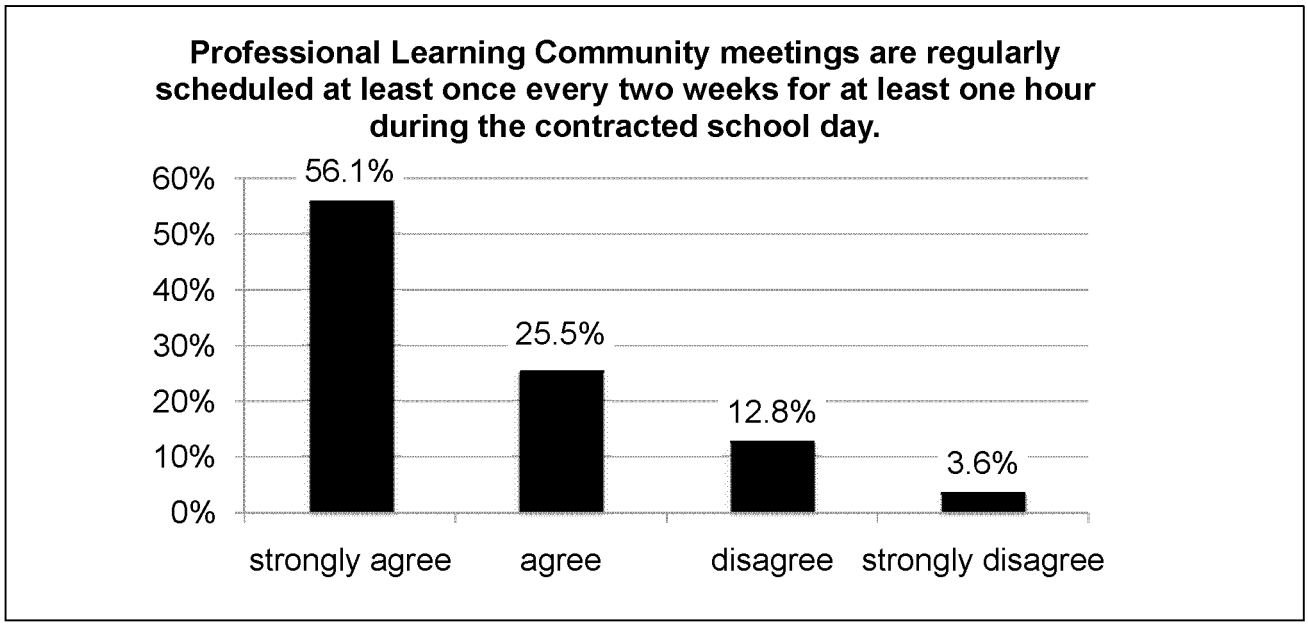

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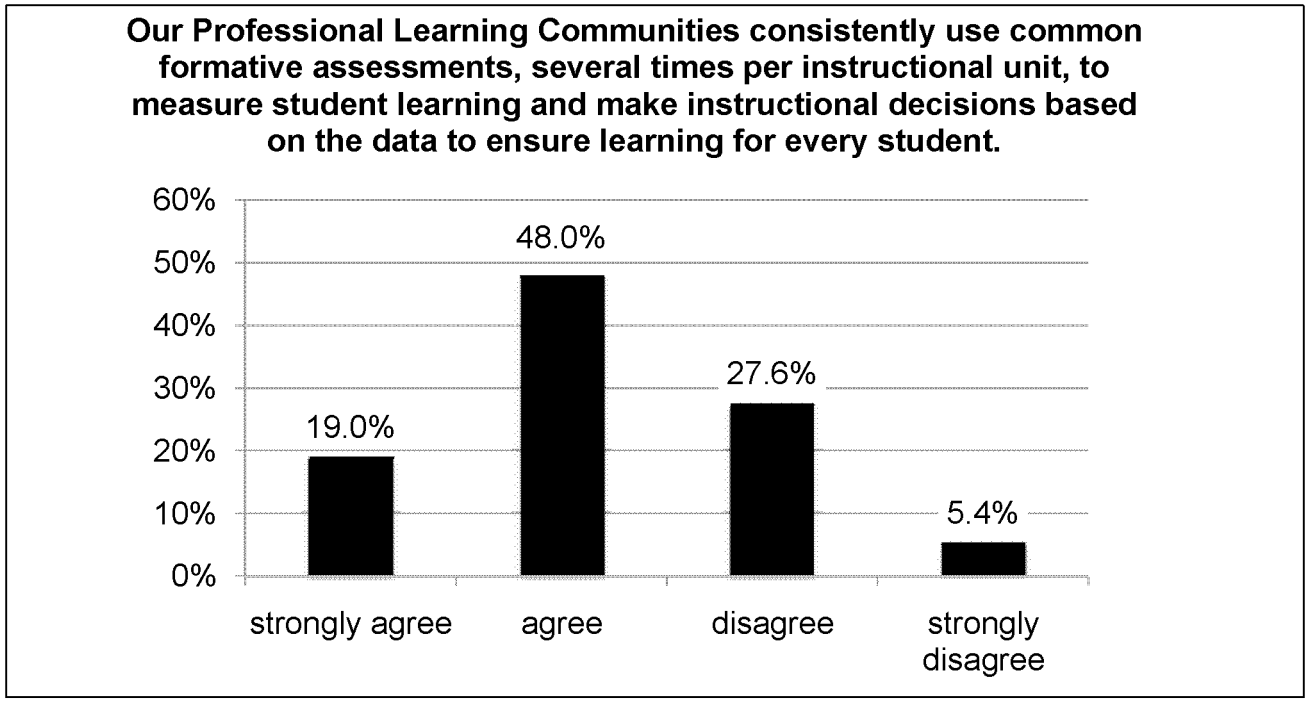

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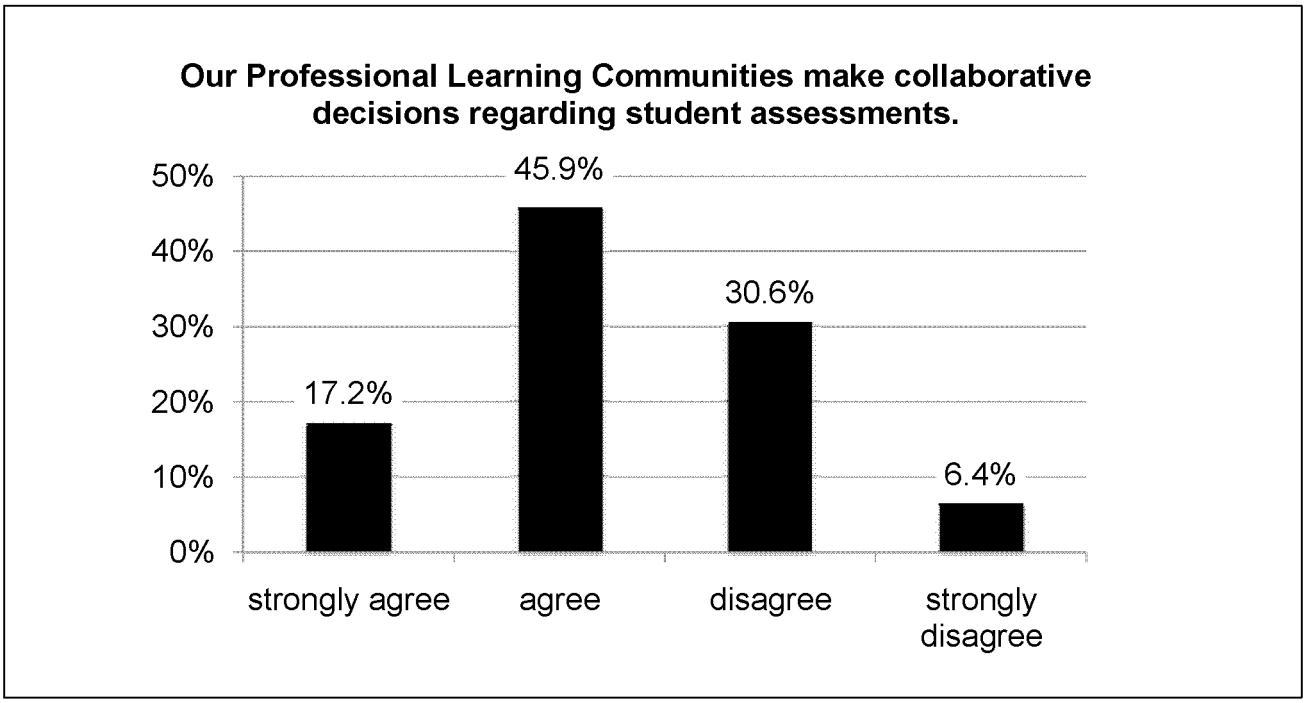

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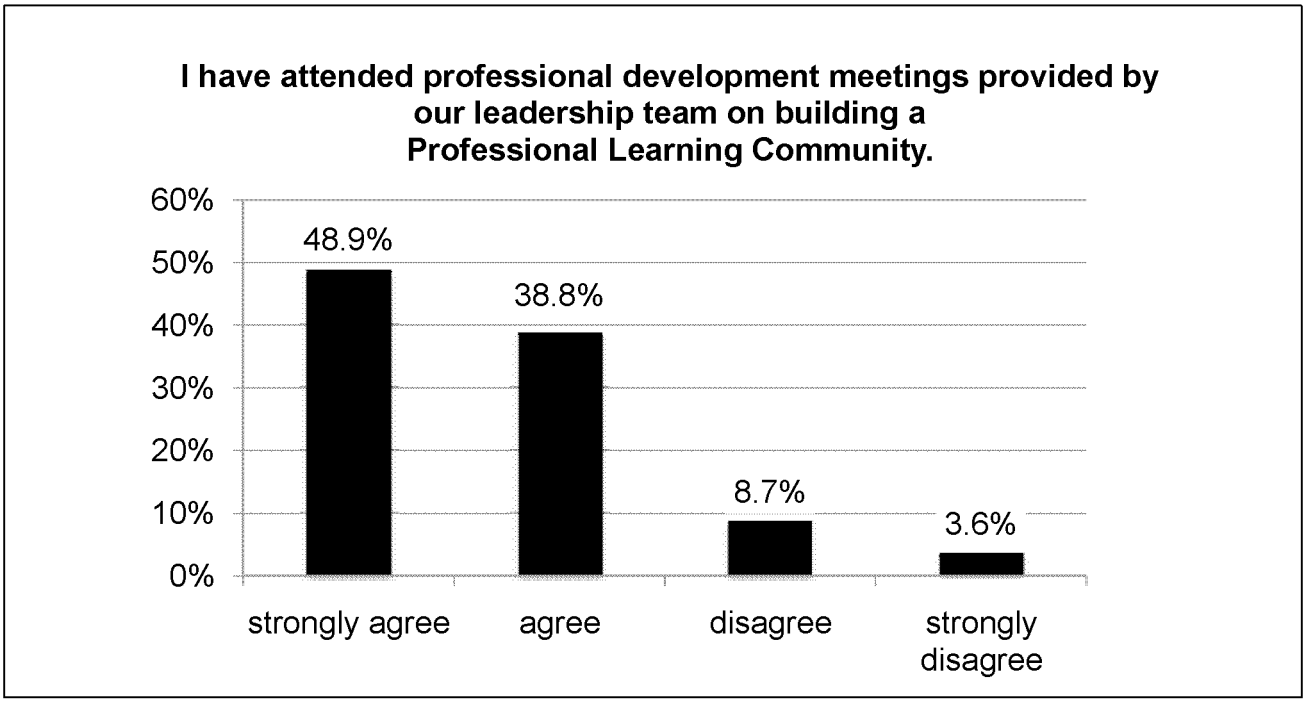

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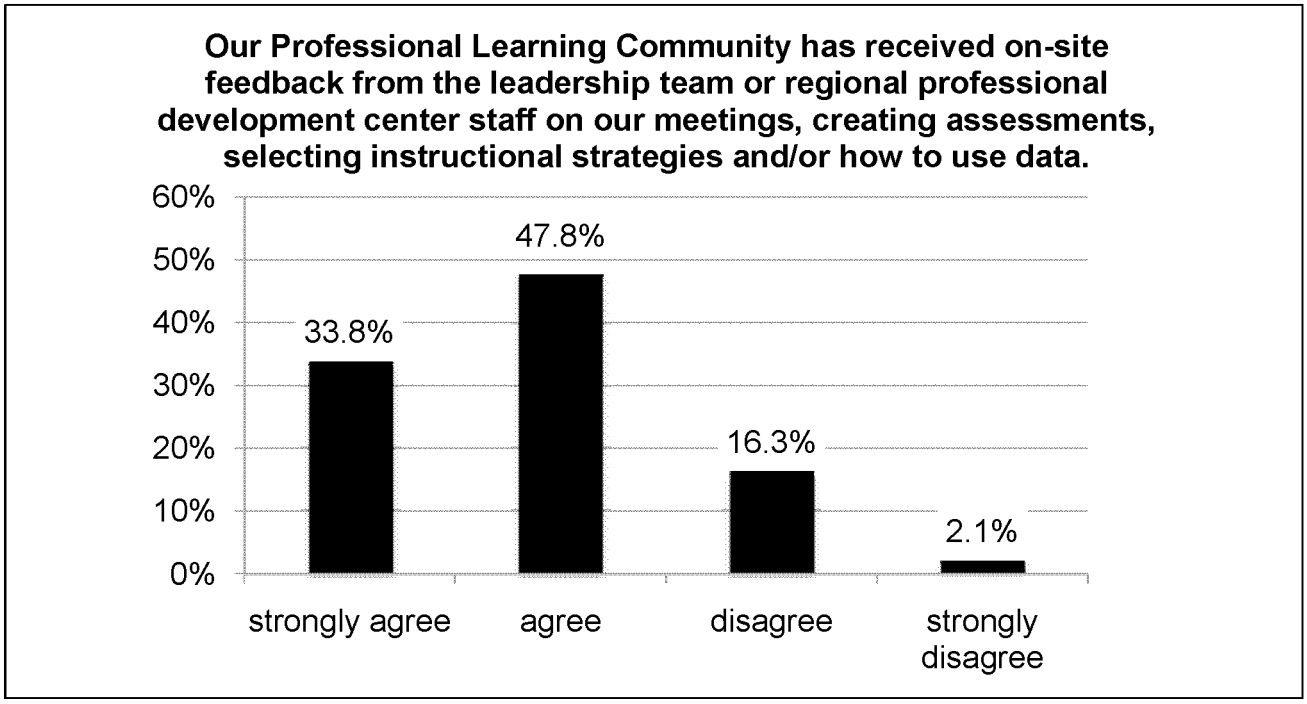

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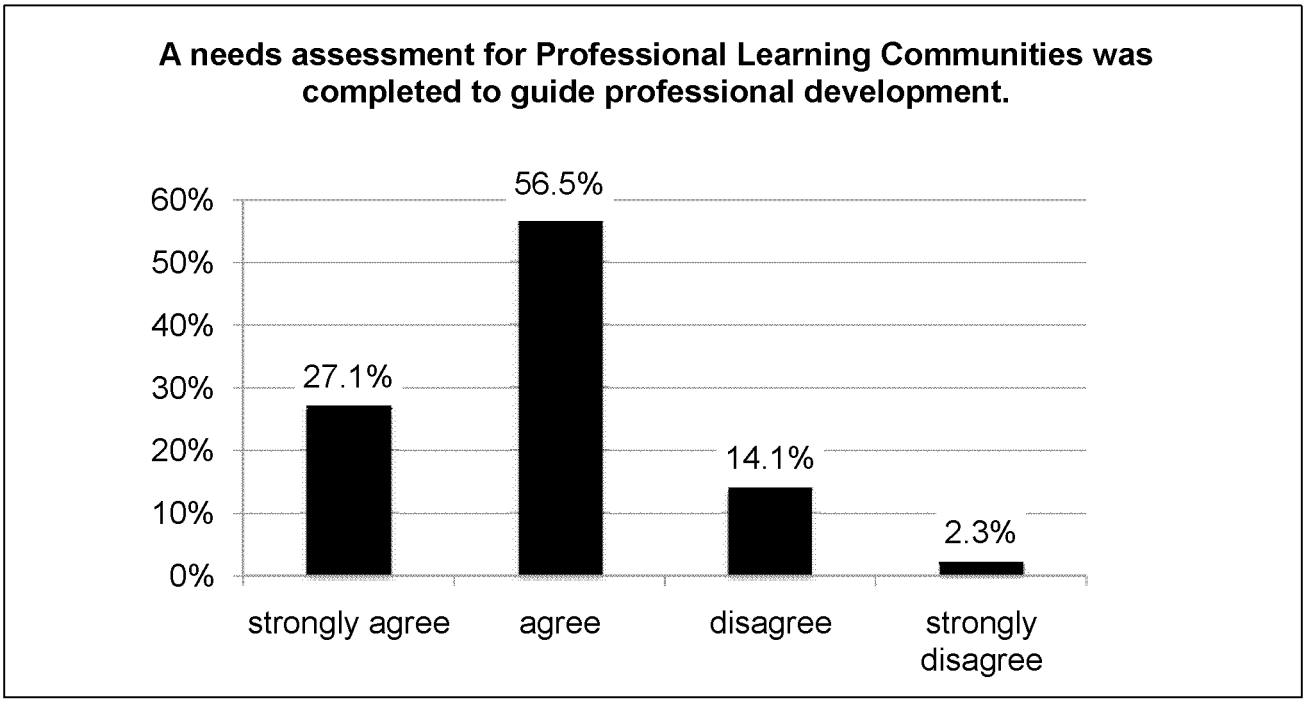

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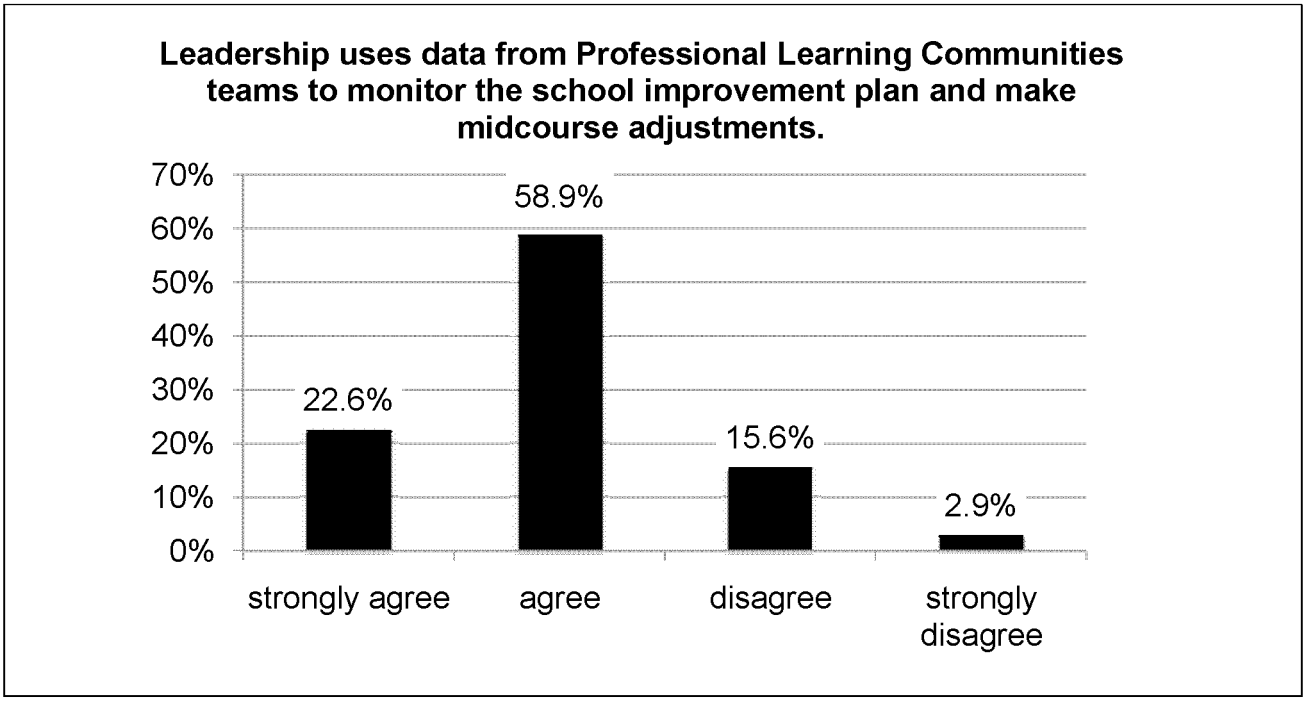

(N=789)

C.15 Project Lead the Way Survey Results

Project Lead the Way, Inc. is a nonprofit organization that promotes high-quality science and engineering curricula for middle grades and high school students.

Through an engaging hands-on curriculum, Project Lead the Way encourages the development of problem-solving skills, critical thinking, creative and innovative reasoning, and a love of learning.

Project Lead the Way offers middle grades pre-engineering courses, a high school engineering program of study and a high school biomedical sciences program of study.

Figure C.15.1 Question 1

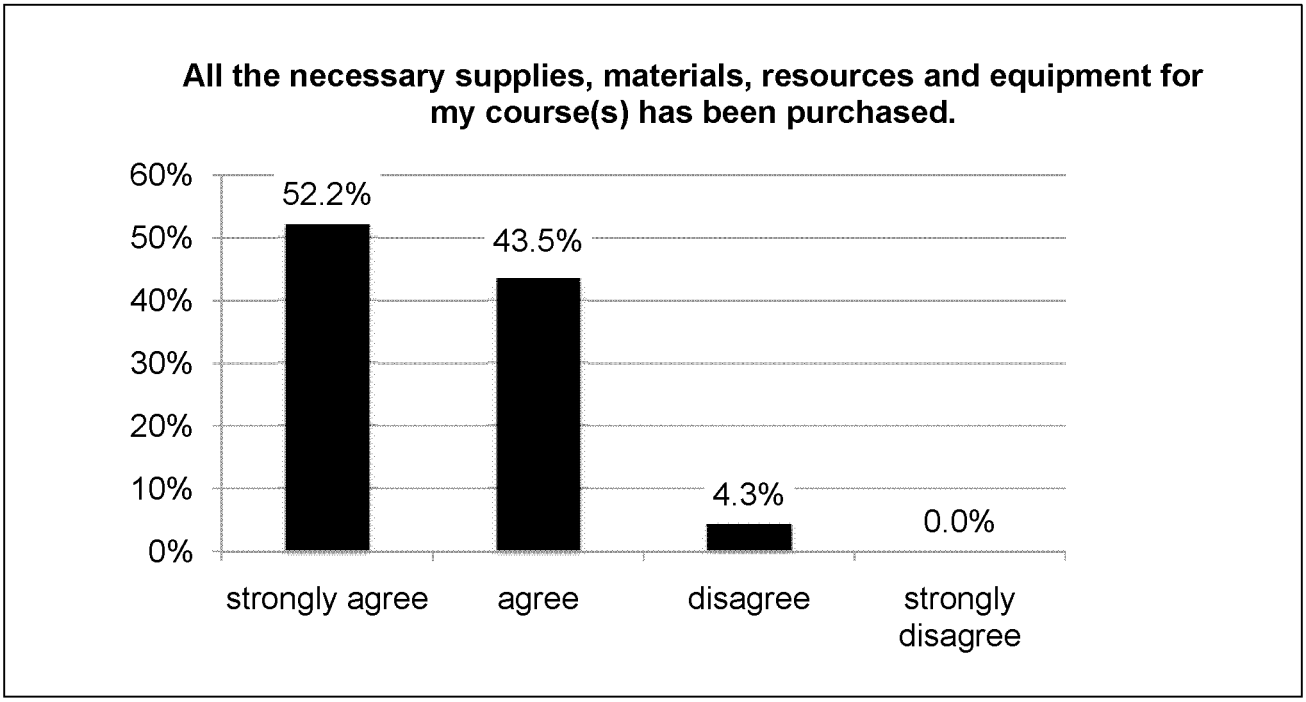

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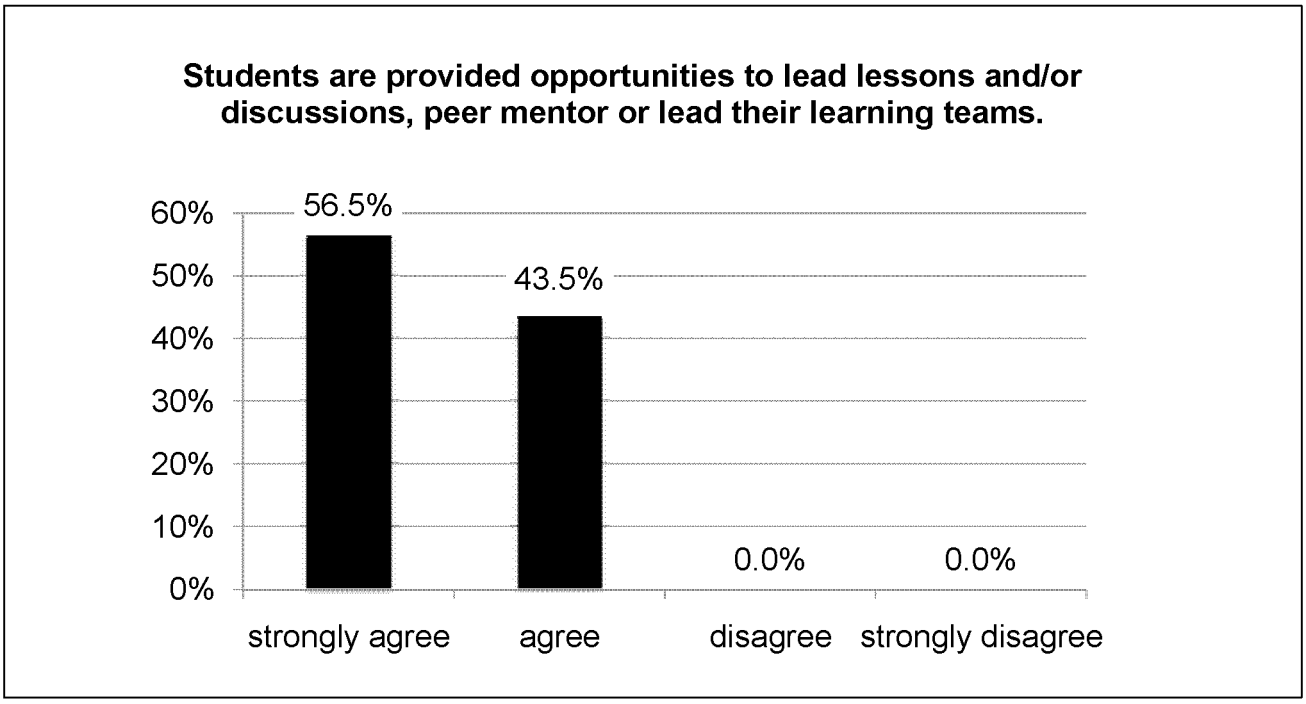
Figure C.15.2 Question 2



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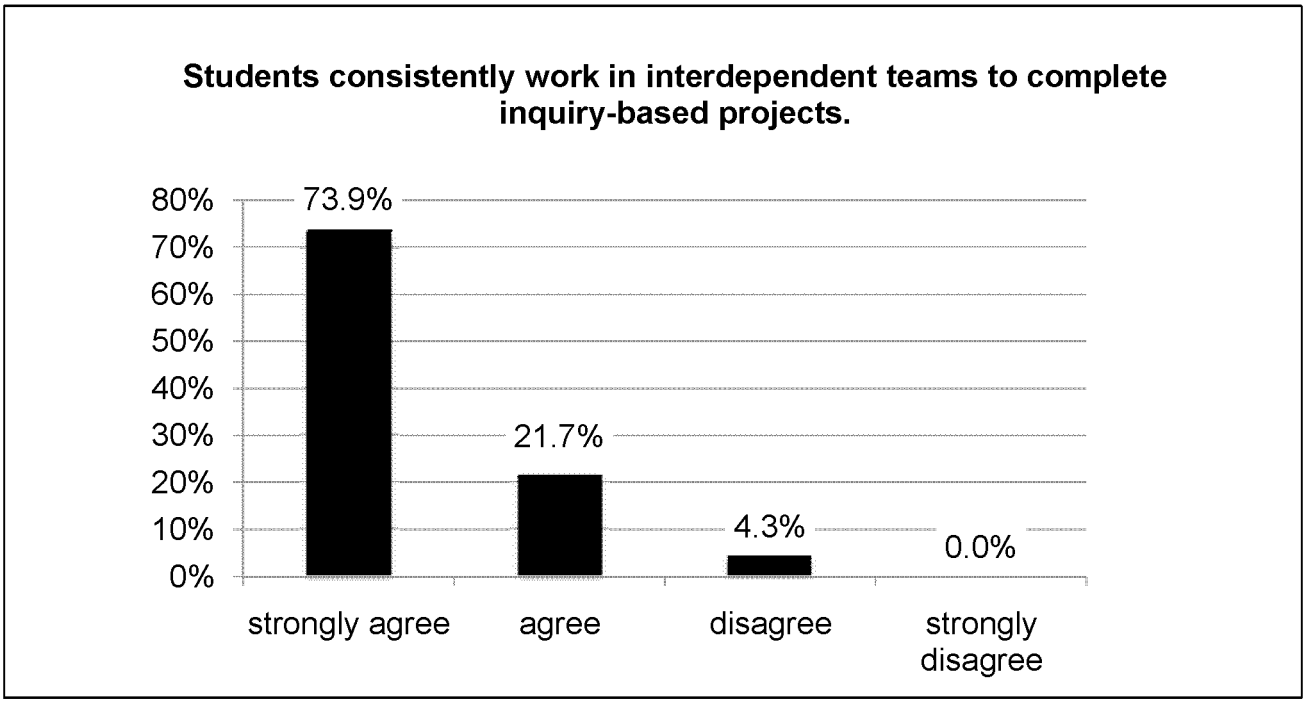

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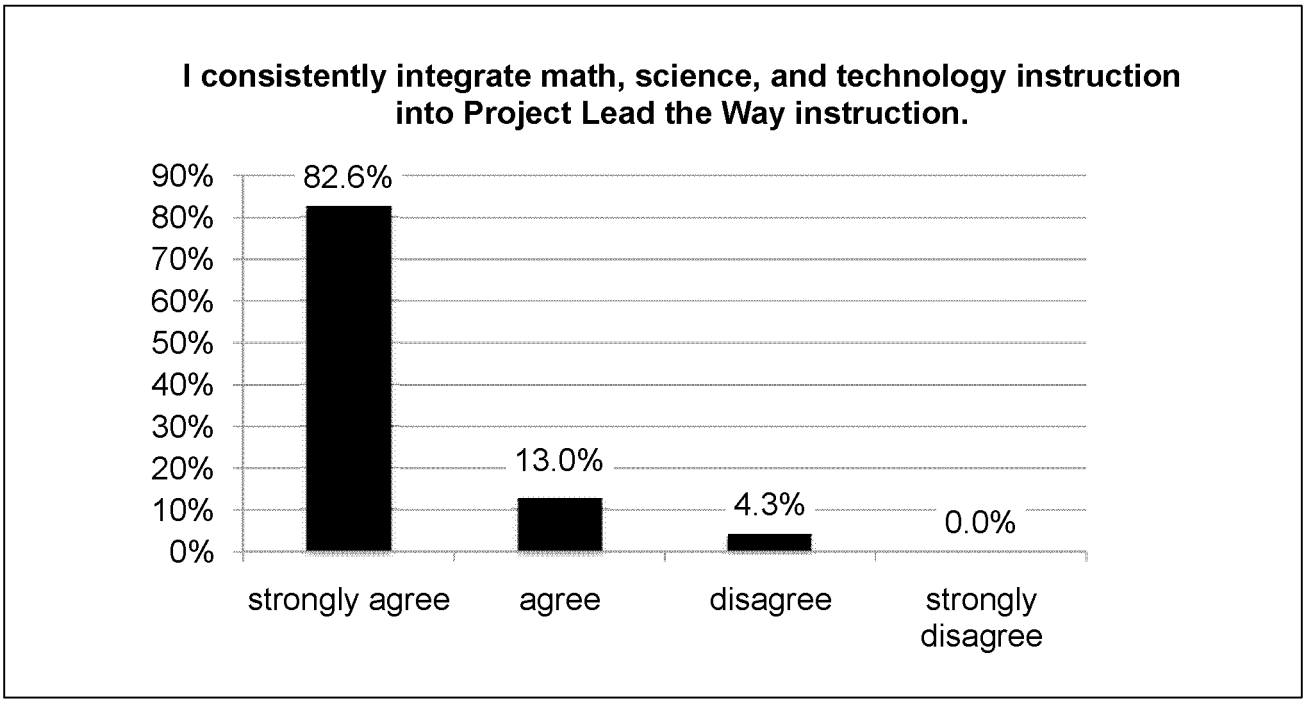

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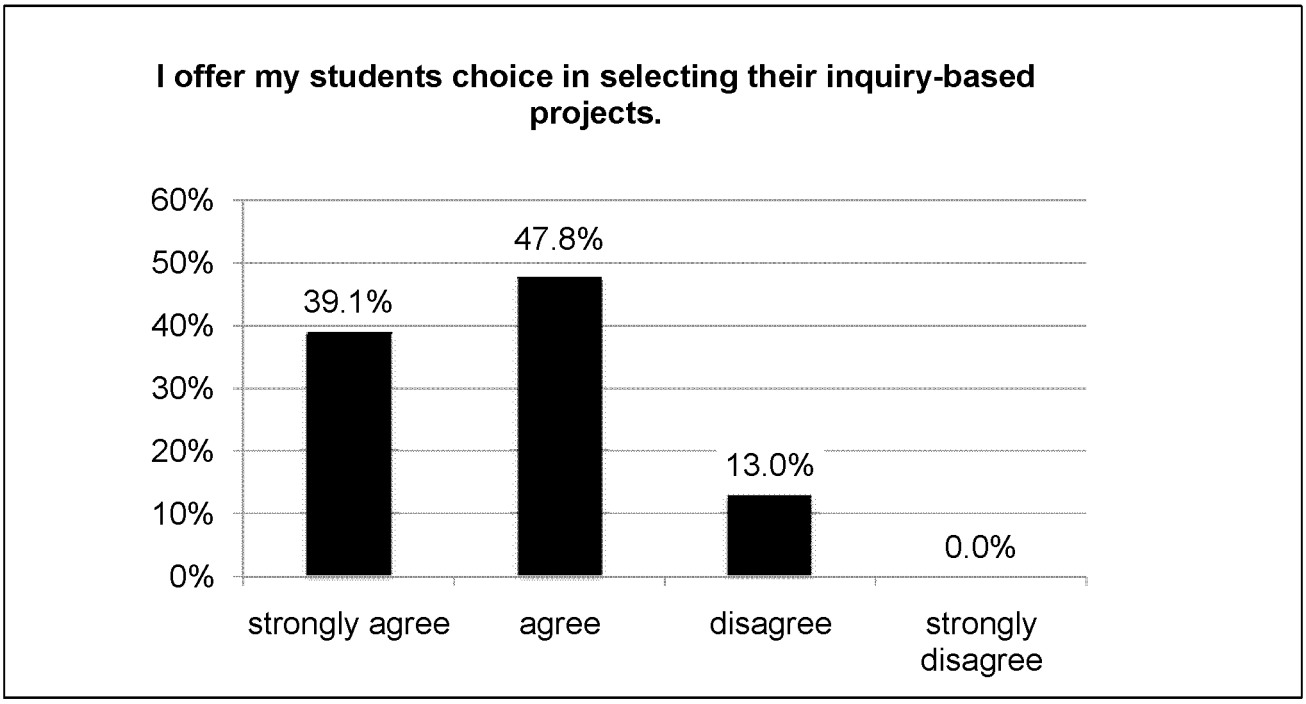

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Figure C.15.6 Question 6

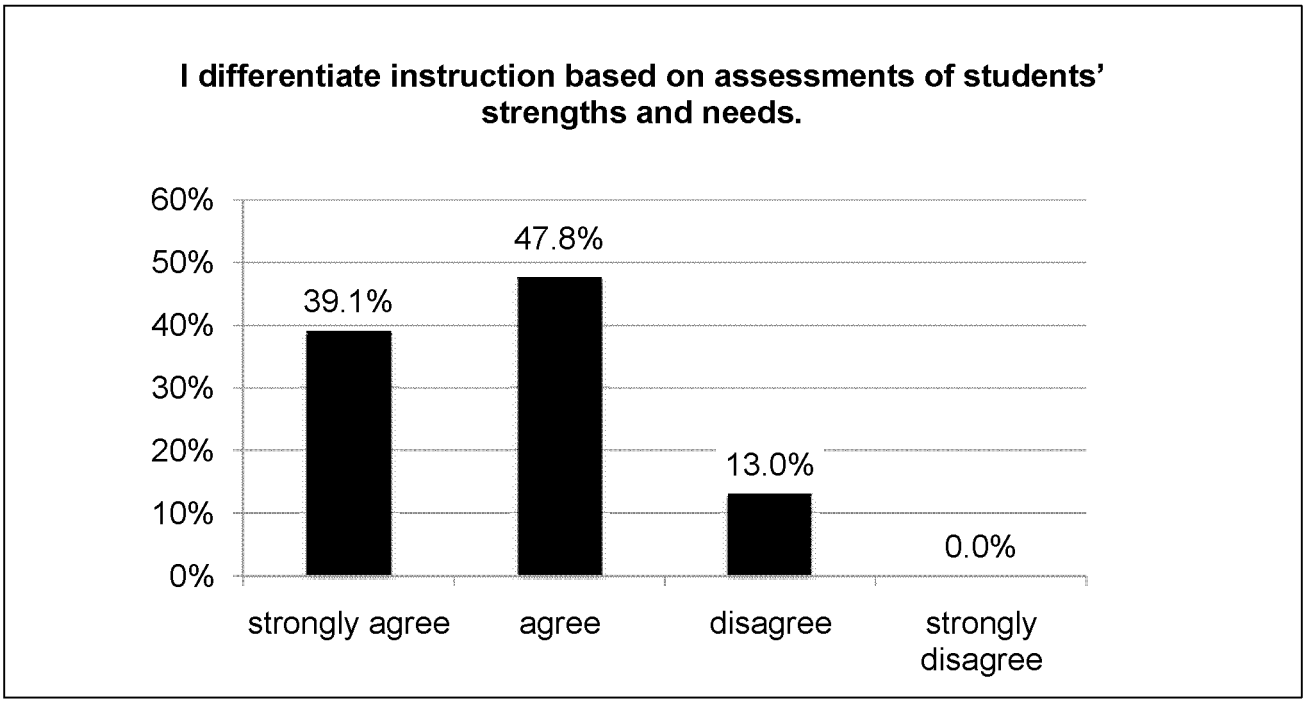

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Figure C.15.7 Question 7

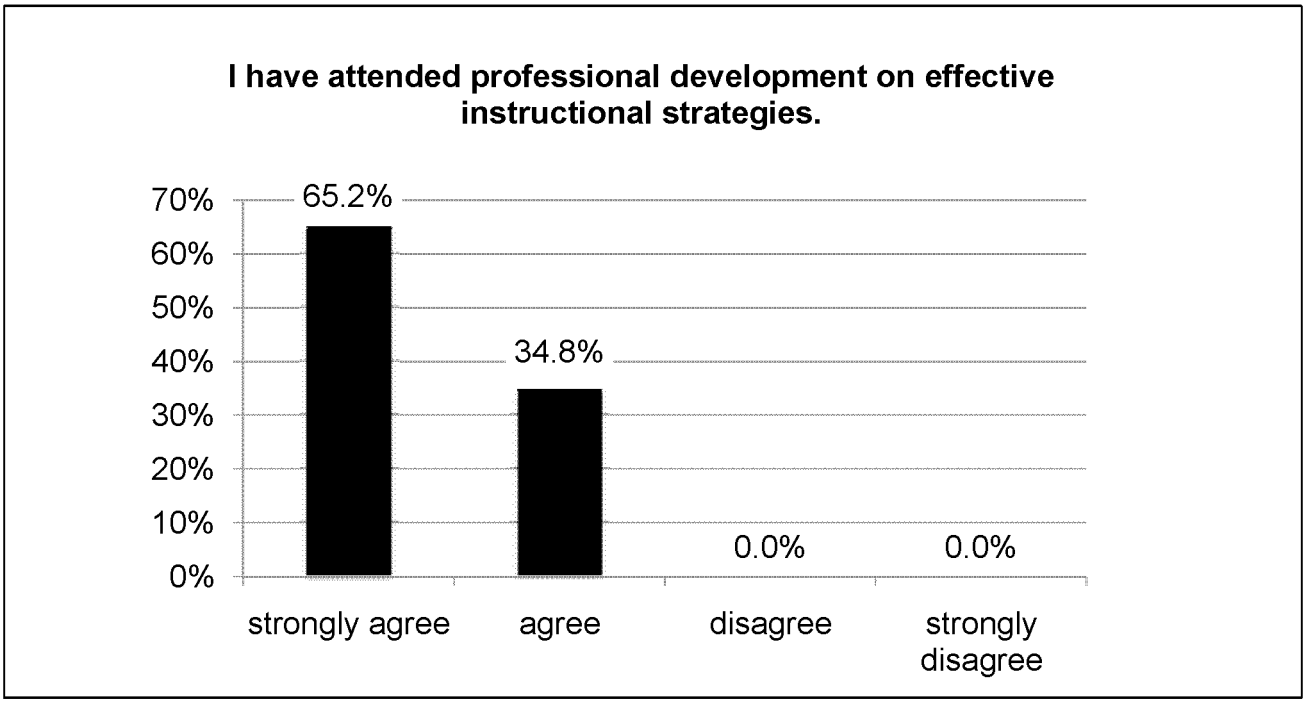

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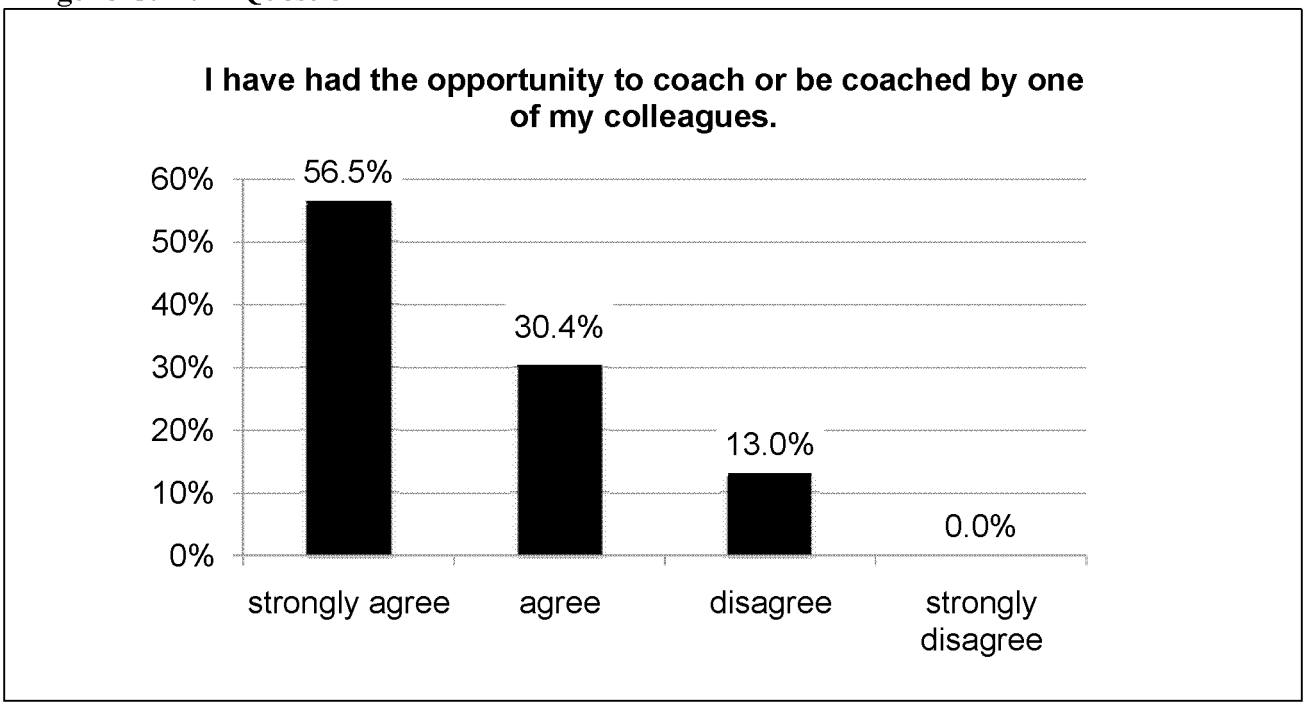
Figure C.15.8 Question 8



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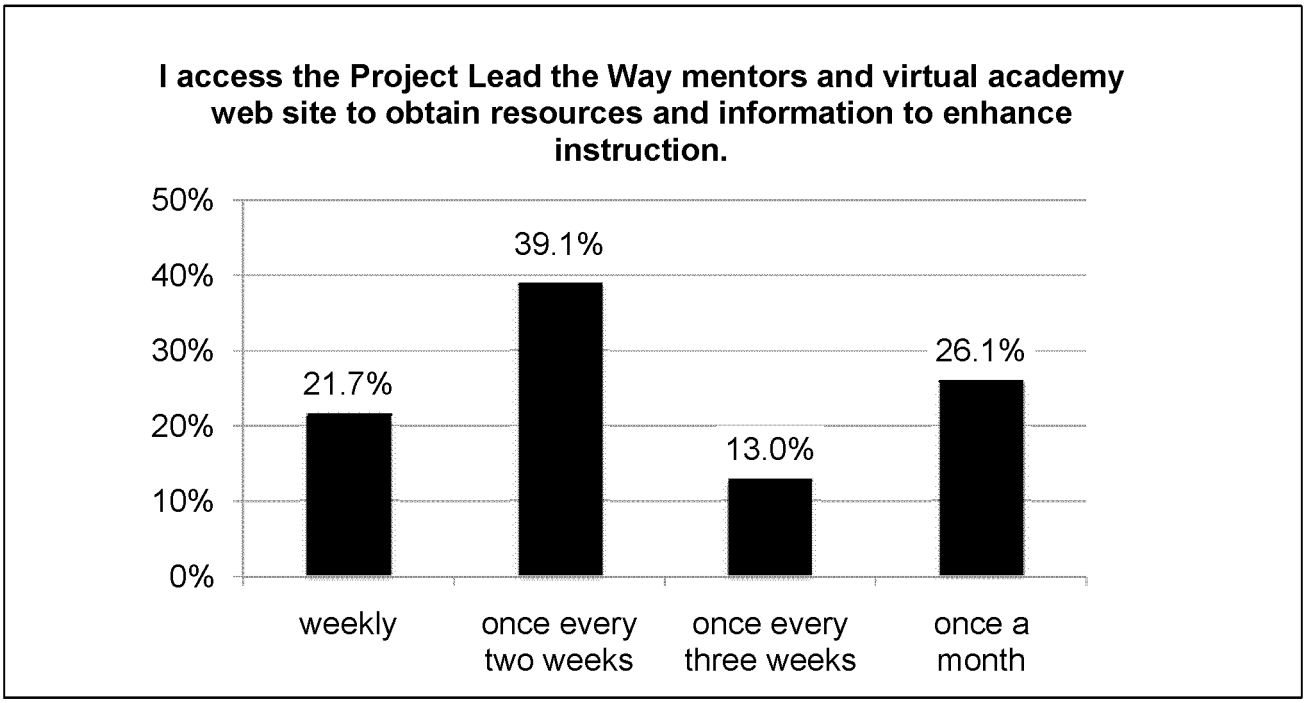

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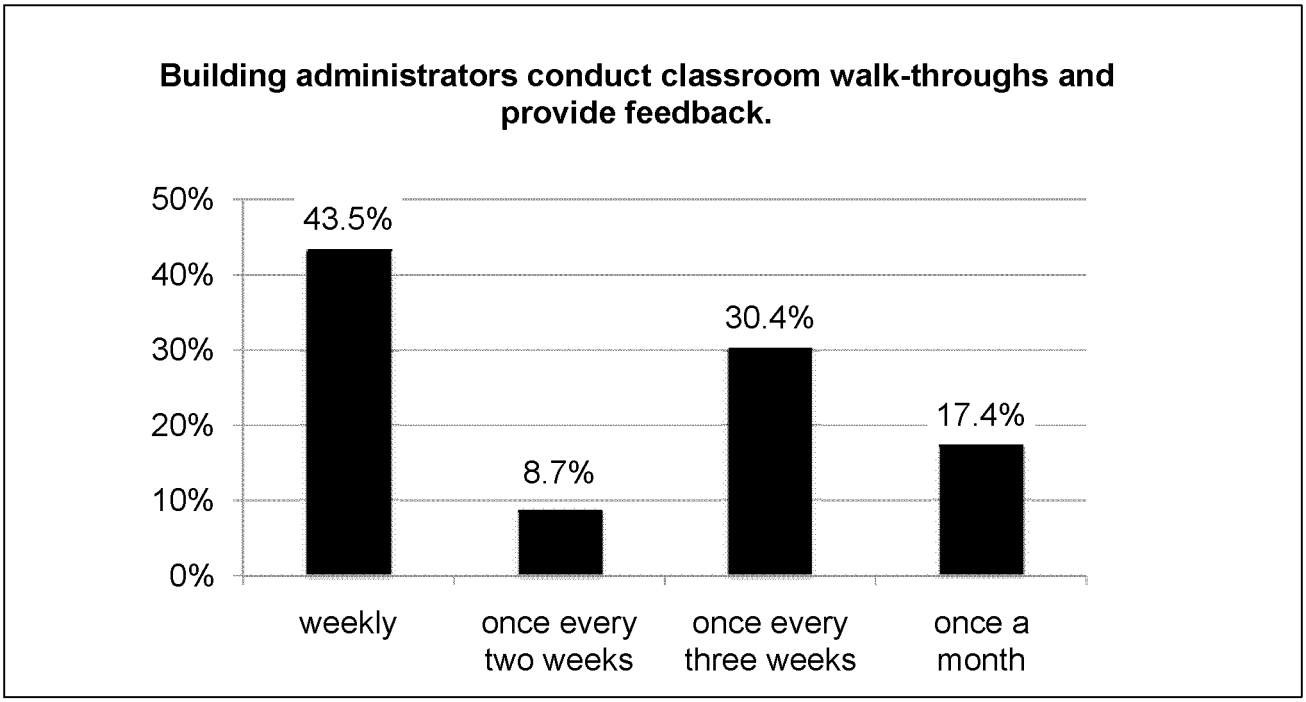
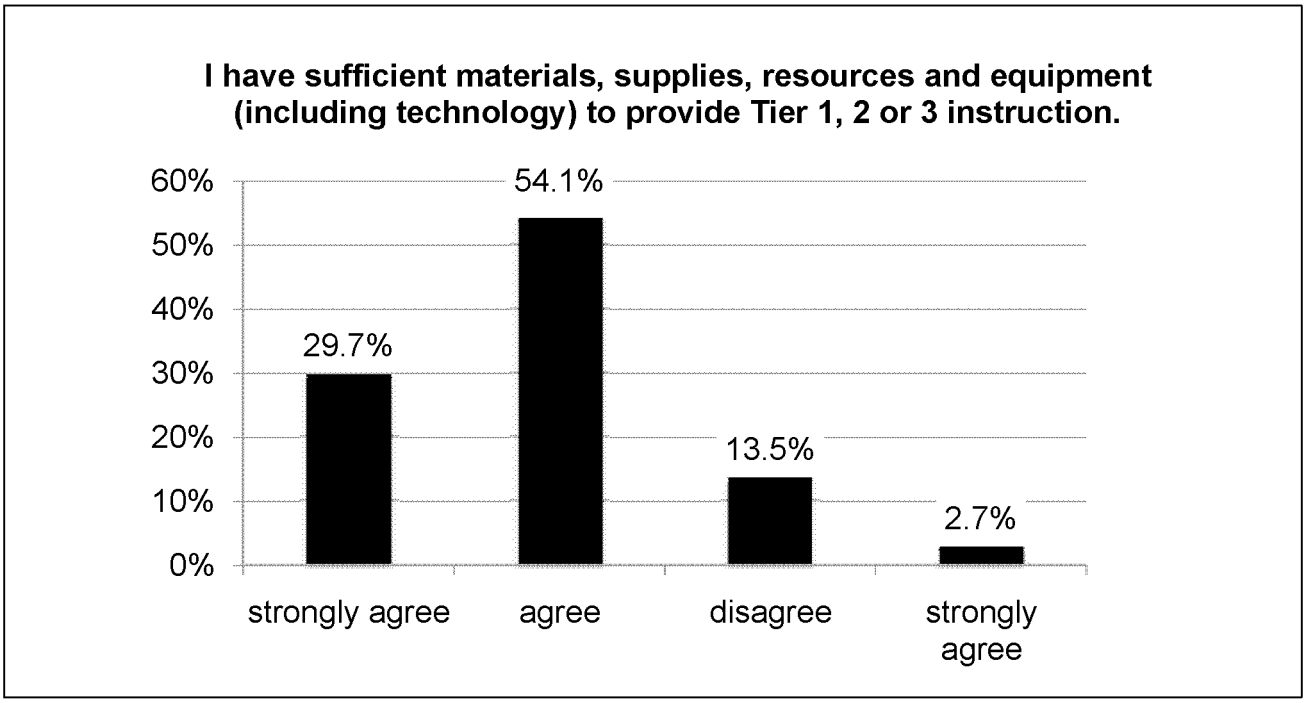


(N=23)

C.16 Response to Intervention Survey Results

Response to Intervention is a framework to allow for instructional and behavioral effectiveness through the use of evidence-based practice, systematic data collection, and data-based decision-making within a tiered model. Core components include high-quality, scientifically research-based core instruction, universal screening and progress monitoring, data-based decision making, well-functioning problem solving teams, tiered model of evidence-based interventions, and fidelity of implementation.

Figure C.16.1 Question 1



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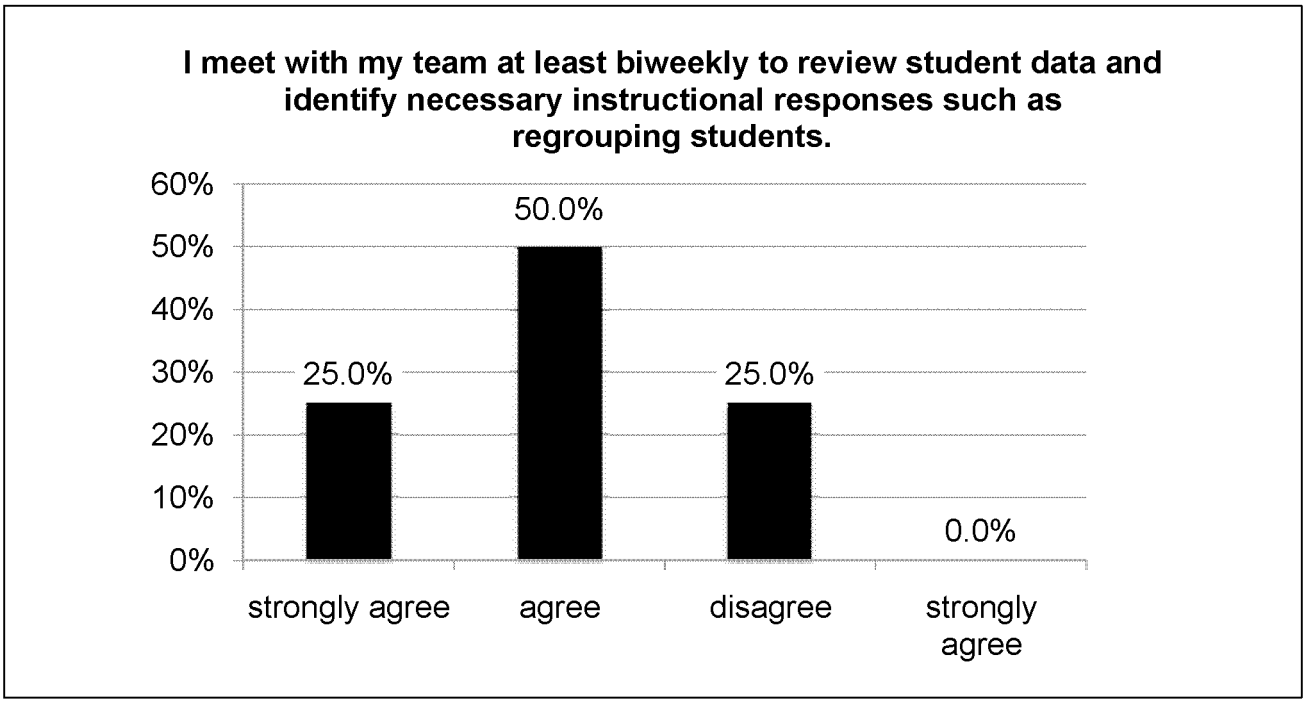

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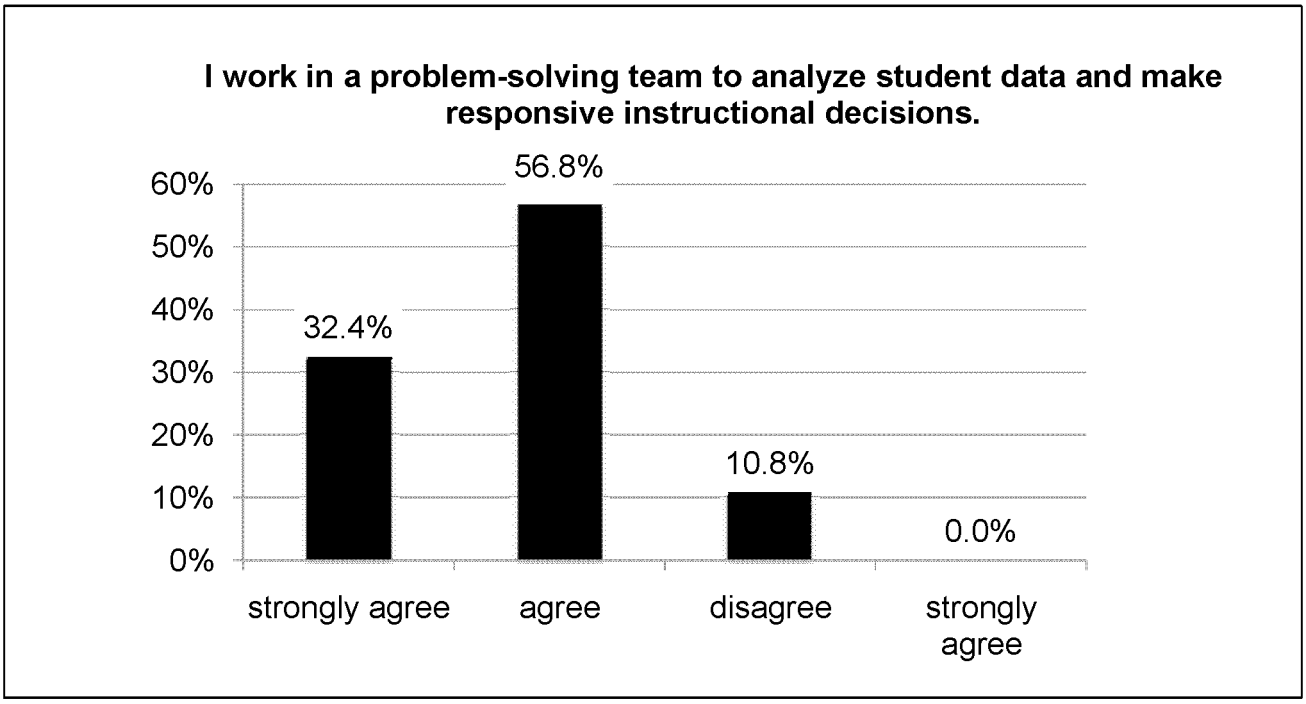

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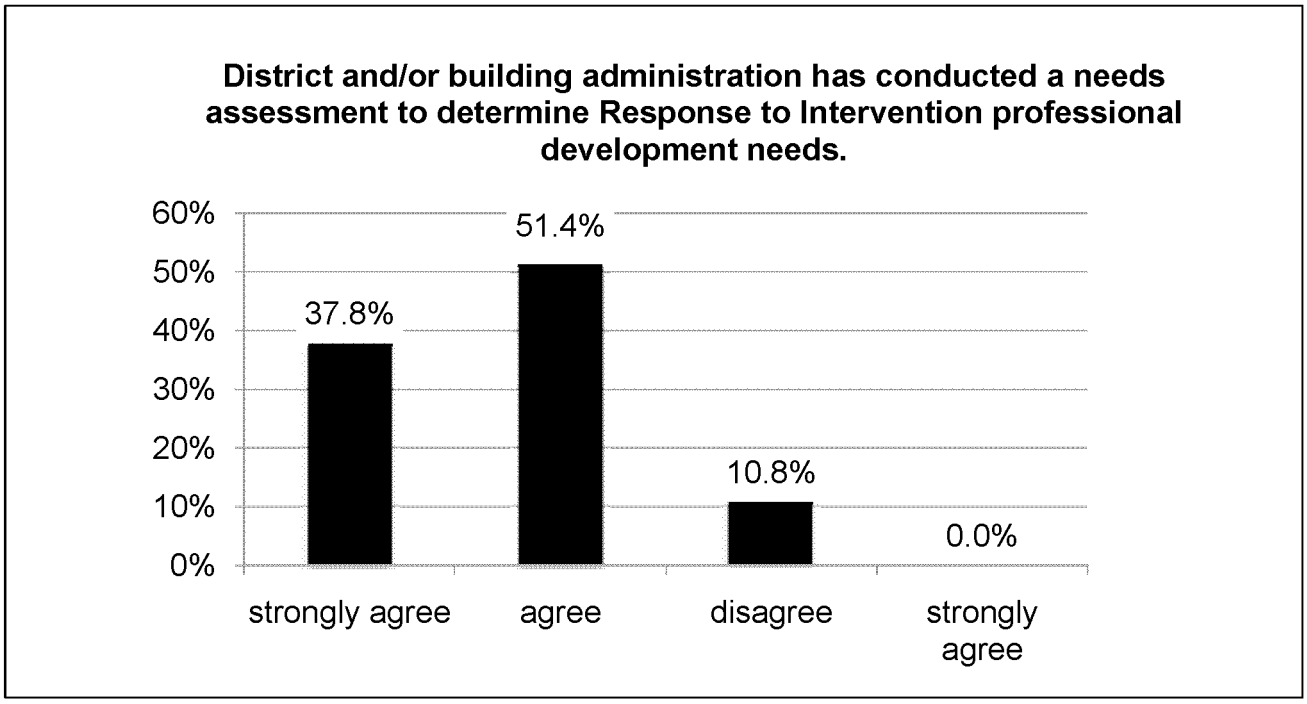

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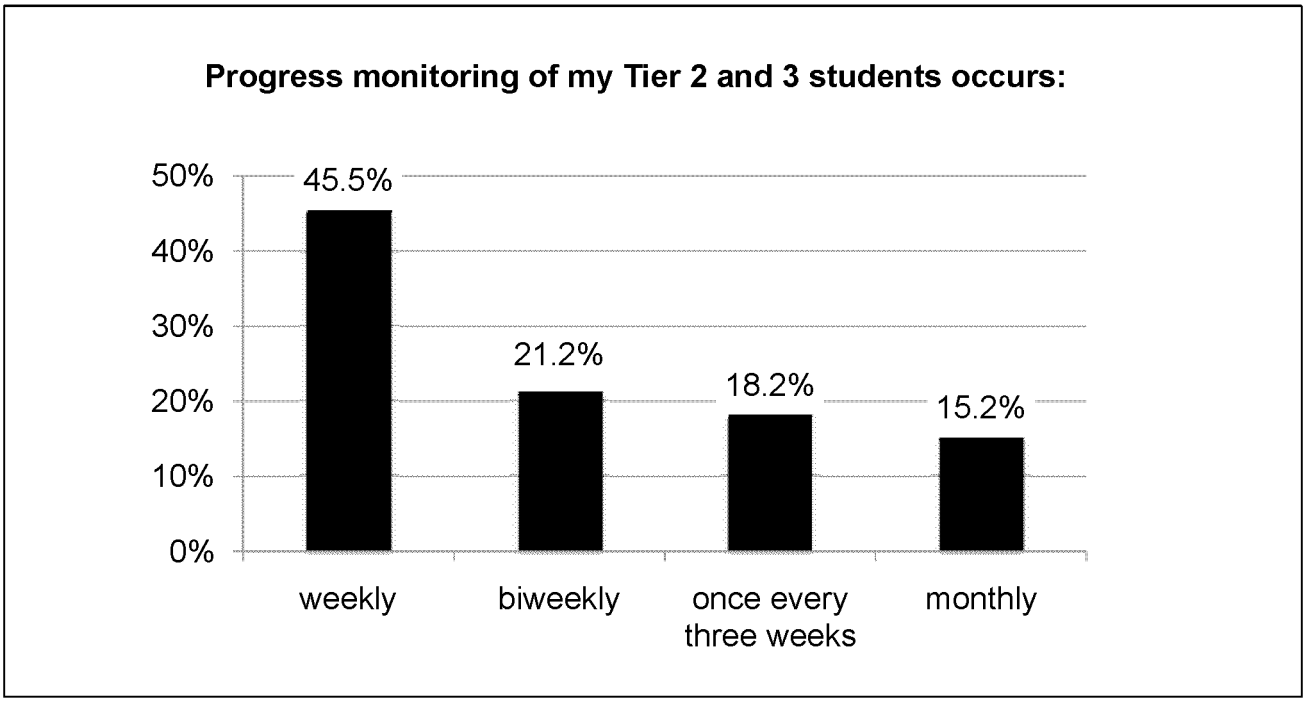

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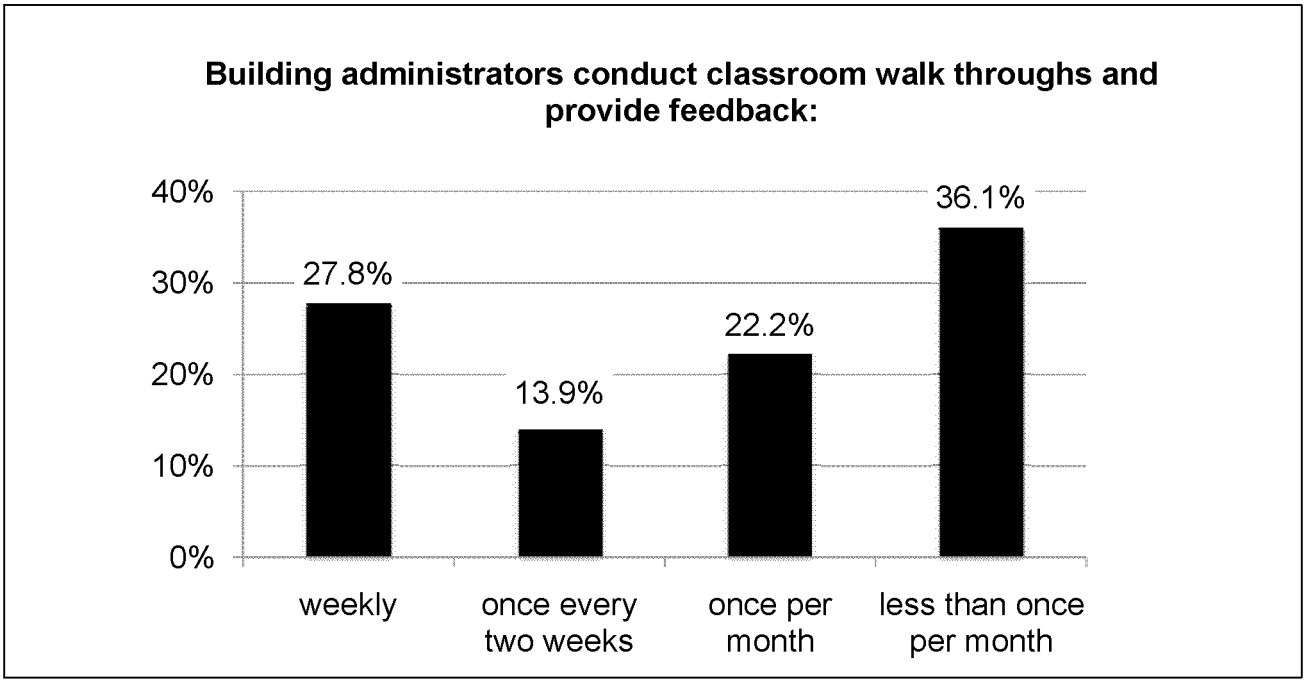

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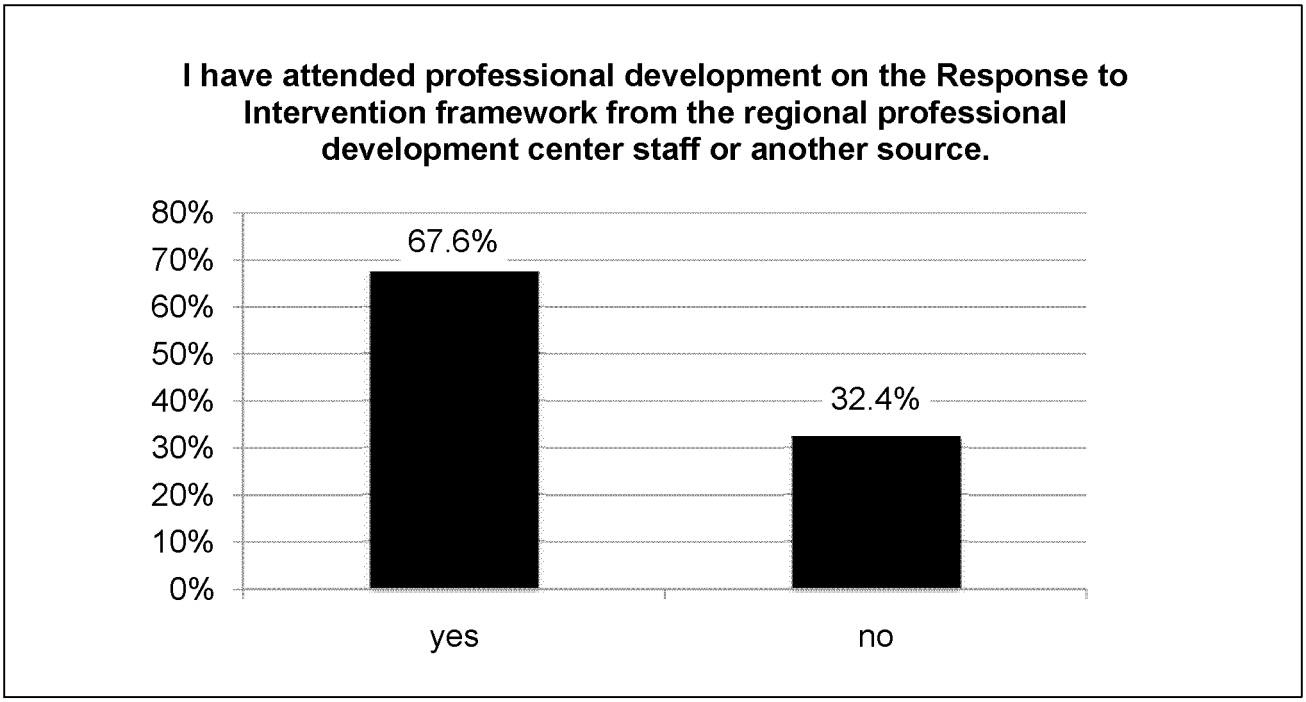

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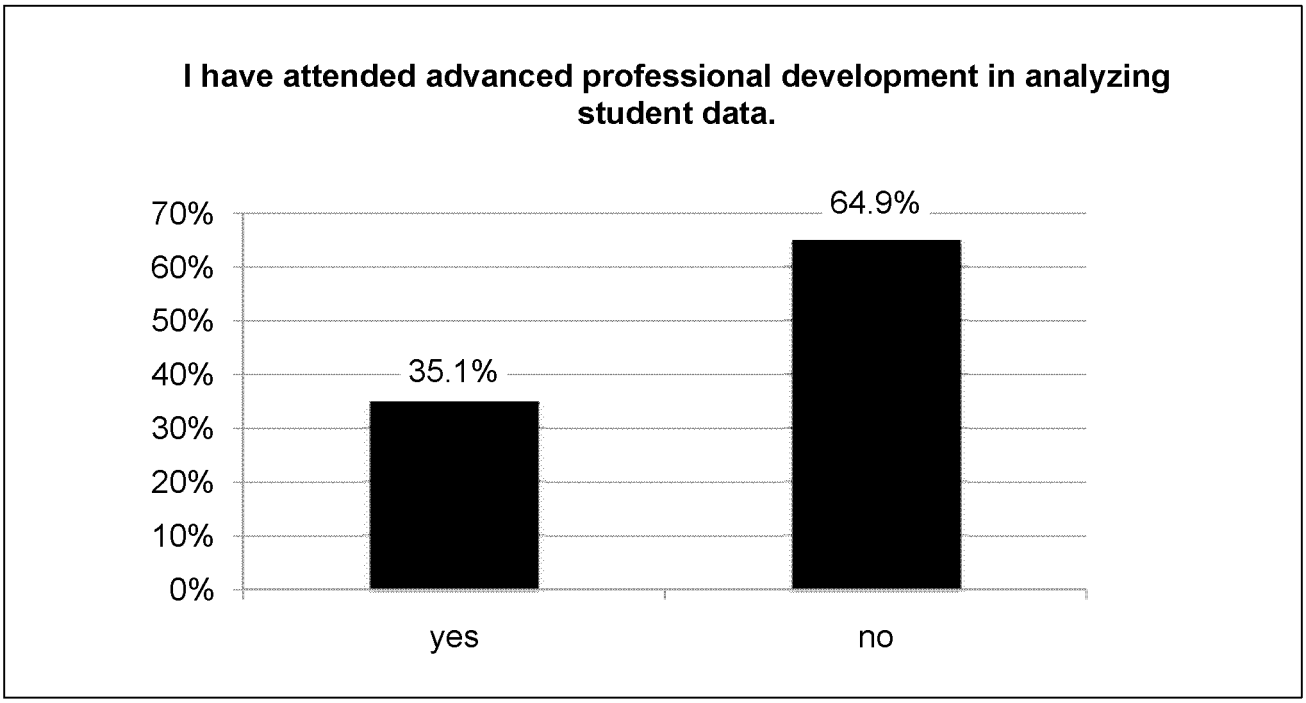
Figure C.16.8 Question 8



(N=36)

C.17 Satellite Academy Program Survey Results

The Satellite Academy Program is a blend of regional and statewide learning experiences aimed at achieving a greater understanding of the program's three objectives. Participants are encouraged to deepen their understanding of their own strengths and weaknesses and to bring out the strengths of others, to gain a greater understanding of what it means to act as an agent of change in their communities, and to grow their understanding of functioning within a professional community of learners. This year-long academy is designed to continue the learning of leaders who have moved through the phase of preparation and into practice. It is an essential component of Missouri's leadership development continuum.

This program only has one school participating.

**No survey data available

C.18 School Administrator Manager Survey Results

The School Administrator Manager is a strategy designed to change the role of the principal from managerial leader to instructional leader, resulting in an increase in time spent on improving teaching and learning.

Educators acknowledge, and research confirms, that administrative duties greatly reduce the time and focus that principals can devote to instruction. However, principals have so far been unable to find a way to eliminate time as a barrier. The School Administrator Manager initiative shows promise in penetrating this "time barrier."

This program only has one district participating.

**No survey data available

C.19 School-Wide Positive Behavior Support Survey Results

Improving student academic and behavior outcomes is about ensuring that all students have access to the most effective and accurately implemented instructional and behavioral practices and interventions possible. This program provides an operational framework for achieving these outcomes. More importantly, School-Wide Positive Behavior Support is not a curriculum, intervention, or practice, but is a decision-making framework that guides selection, integration, and implementation of the best evidence-based academic and behavioral practices for improving important academic and behavior outcomes for all students.

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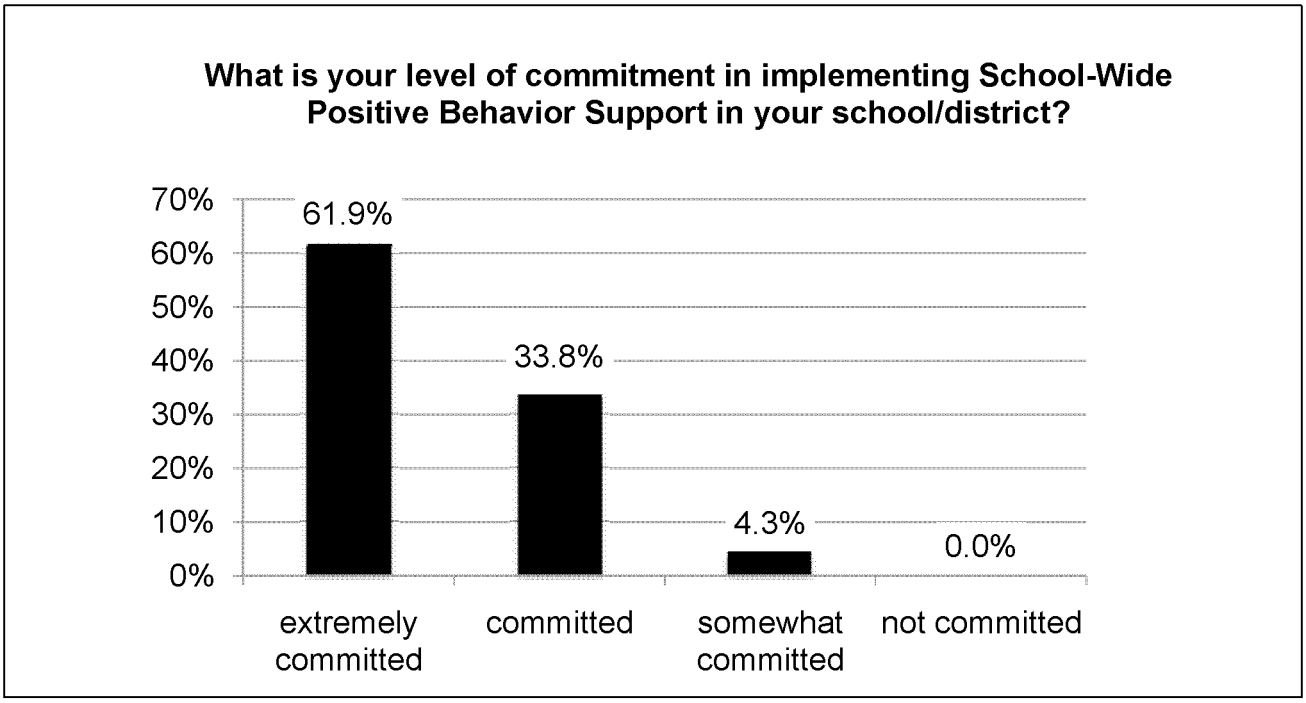

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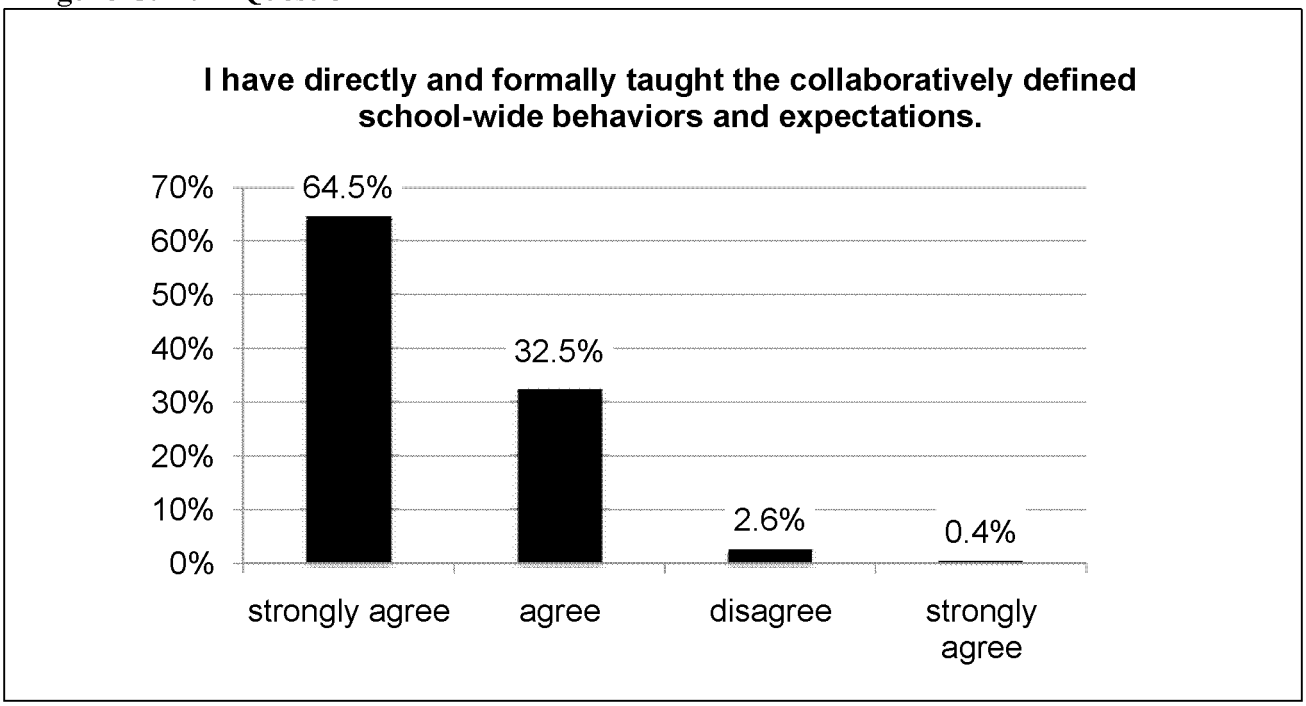

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Figure C.19.3 Question 3

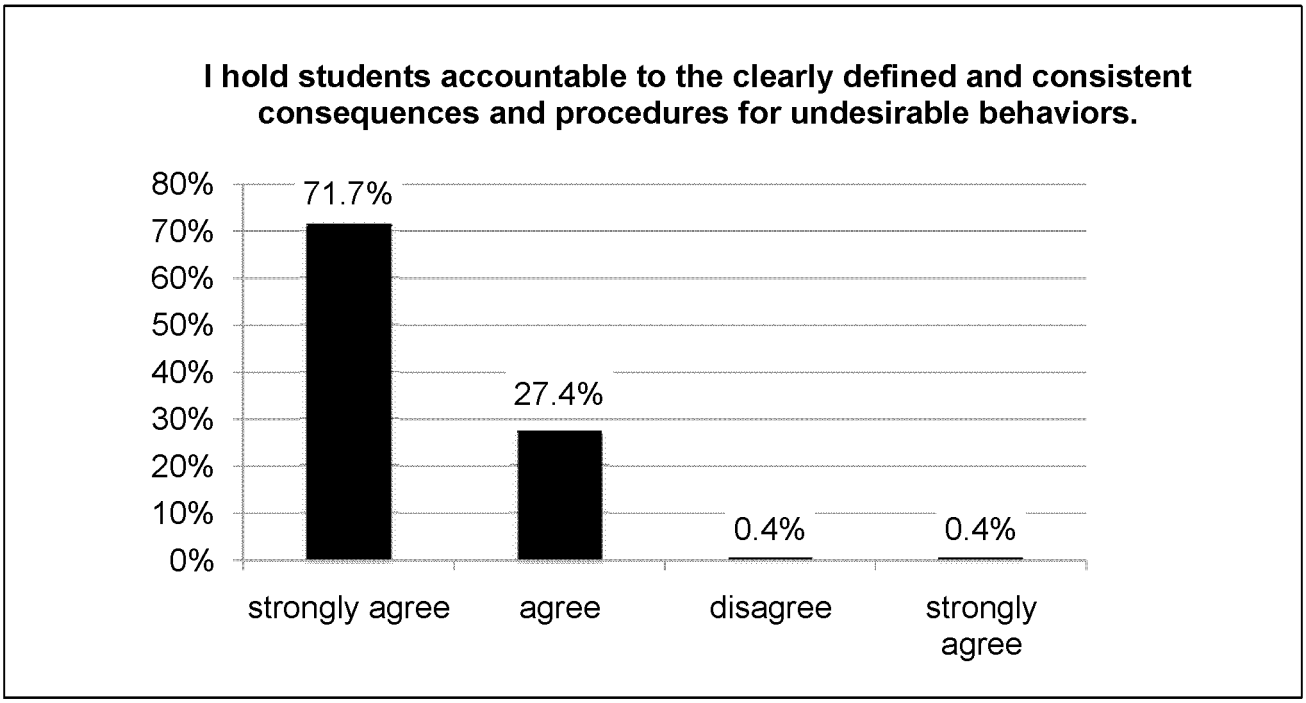

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Figure C.19.4 Question 4

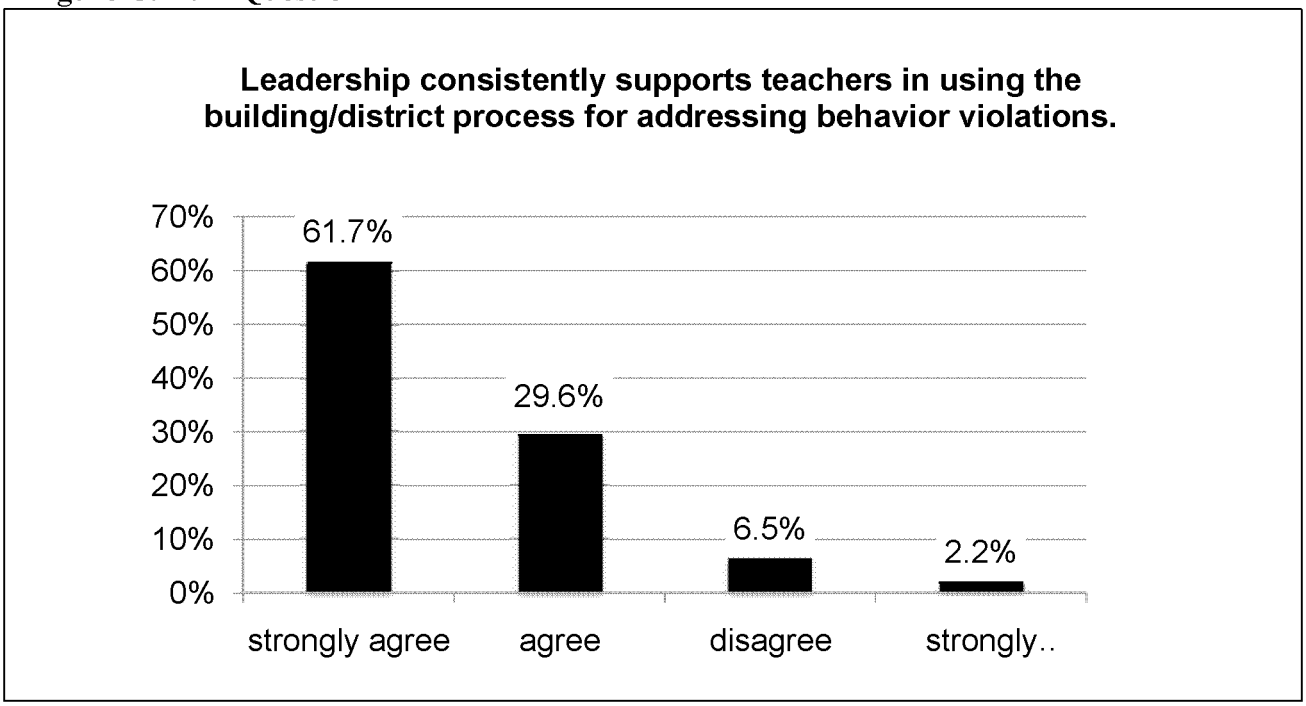

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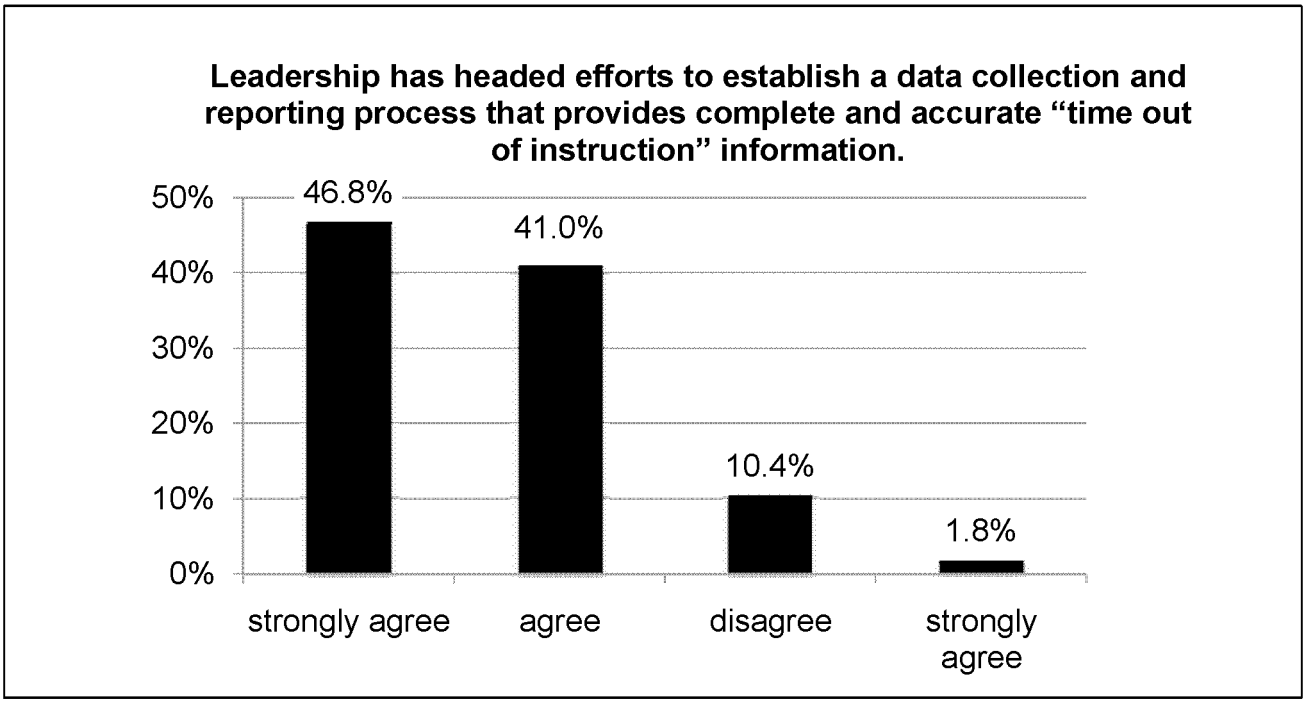
Figure C.19.5 Question 5



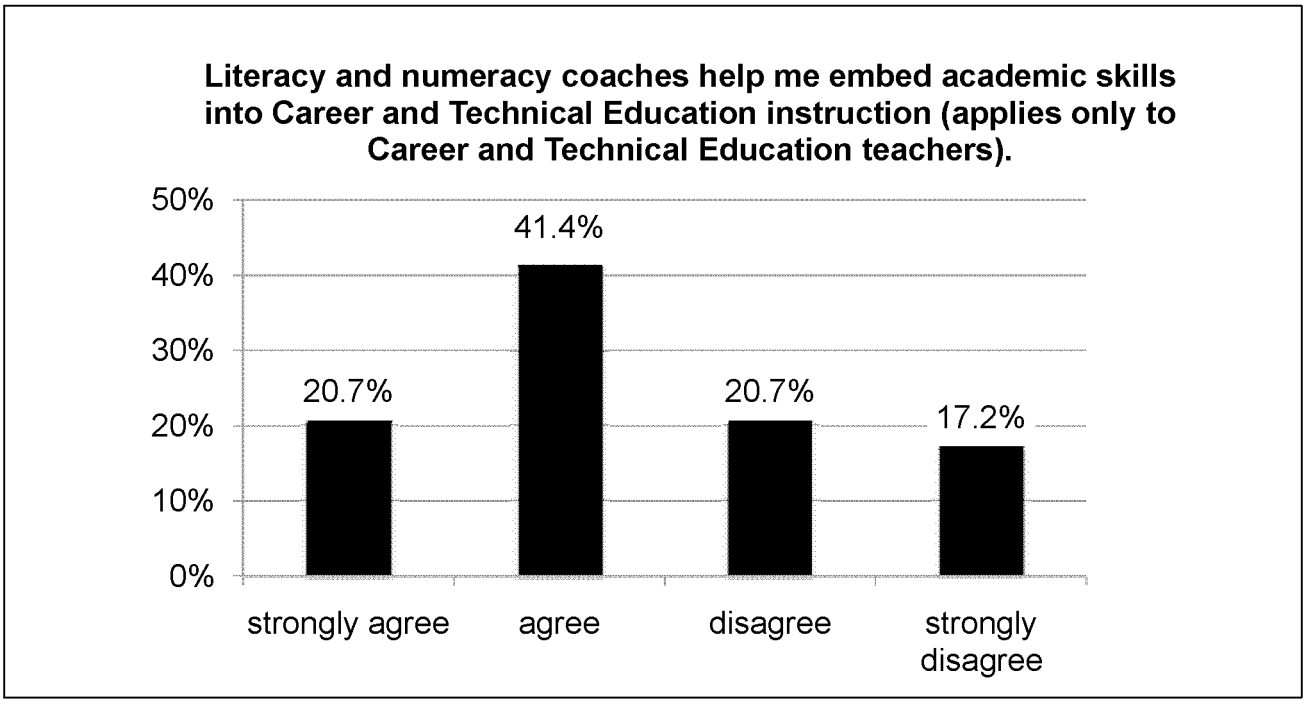
(N=222)

C.20 Technology Centers that Work Survey Results

Tech centers, technology centers, technical centers, career centers and career/technical centers all have a common purpose: to provide high-quality career/technical studies to high school students. Students may attend these centers for only a portion of the school day, week or year, or they may attend full time, receiving both academic and technical instruction at the center.

The Technology Centers that Work school improvement initiative was formed in 2007 to help these shared-time centers review and implement the actions needed to produce high-demand, high-wage graduates who will be leaders in their selected careers. The network now includes more than 130 sites in 12 states.

Figure C.20.1 Question 1



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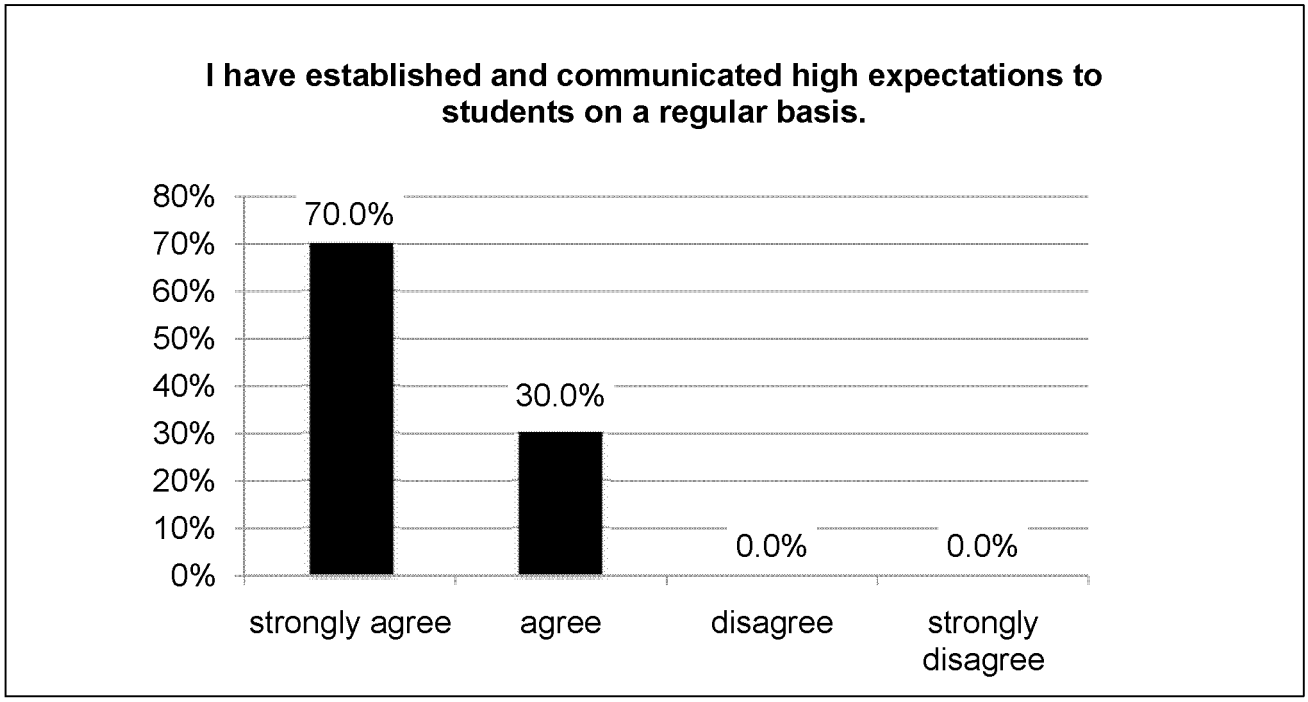

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Figure C.20.3 Question 3

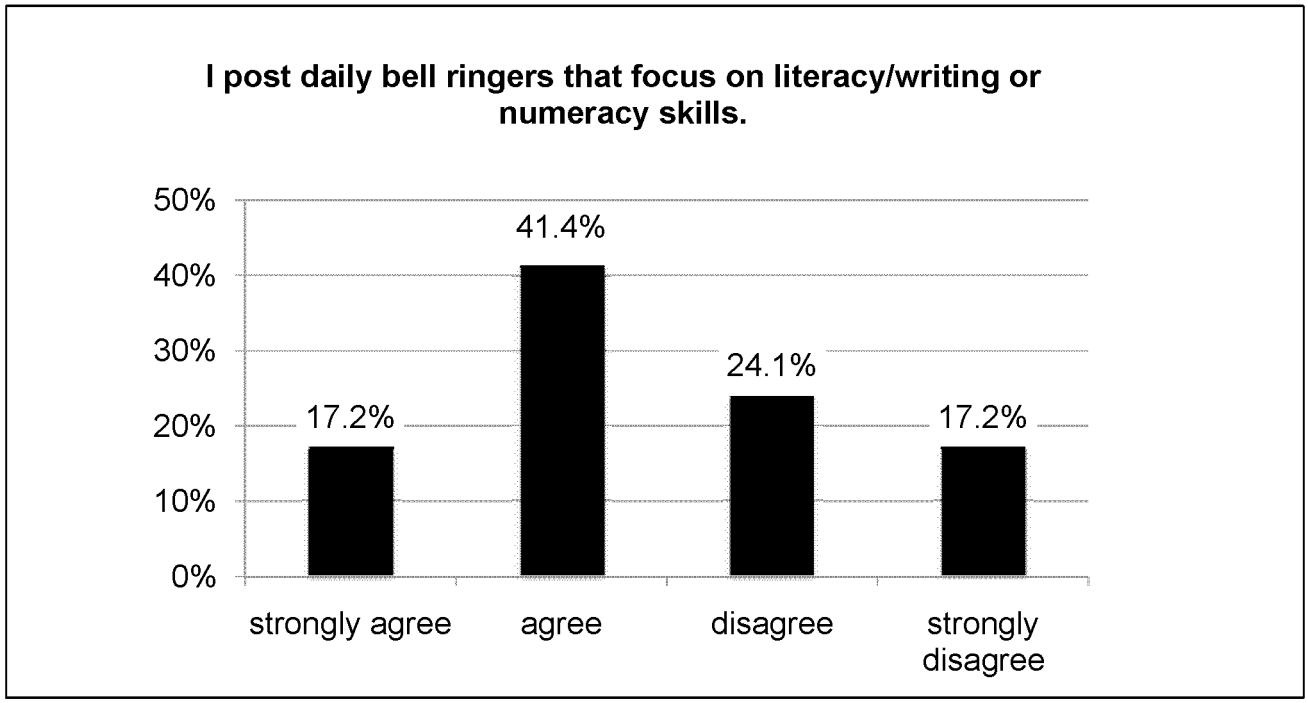

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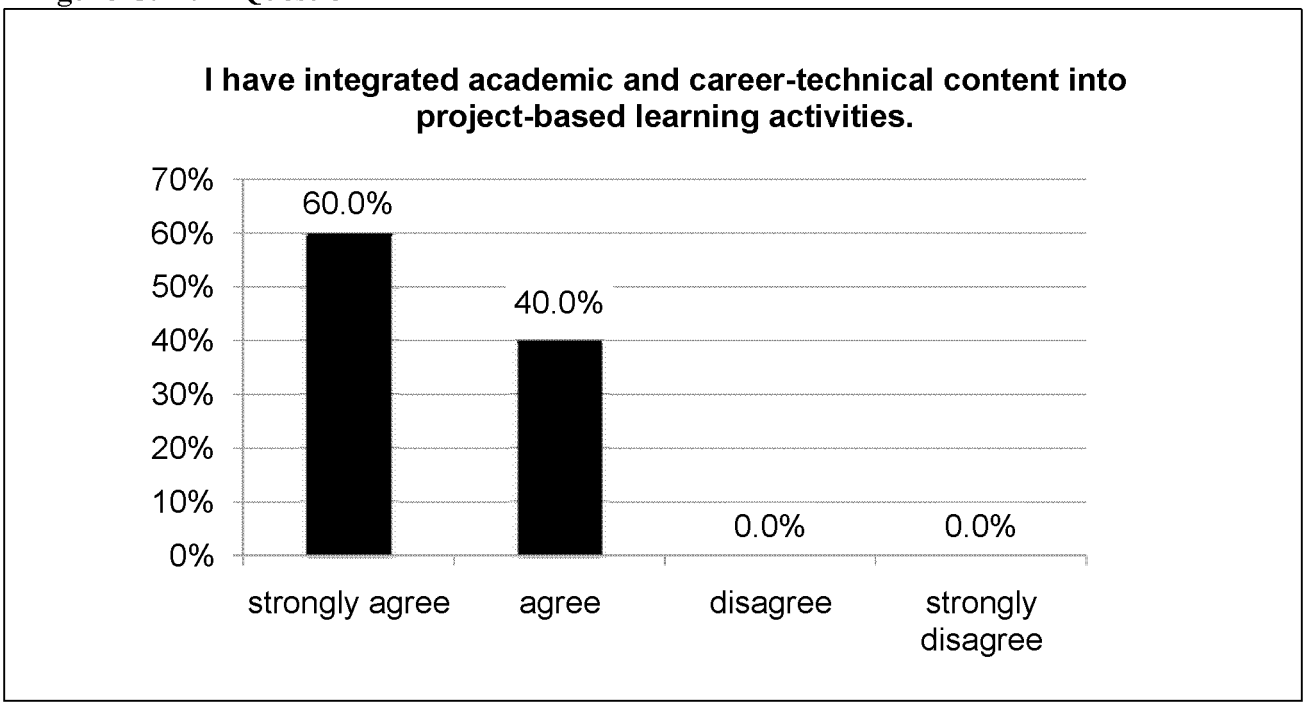
Figure C.20.4 Question 4



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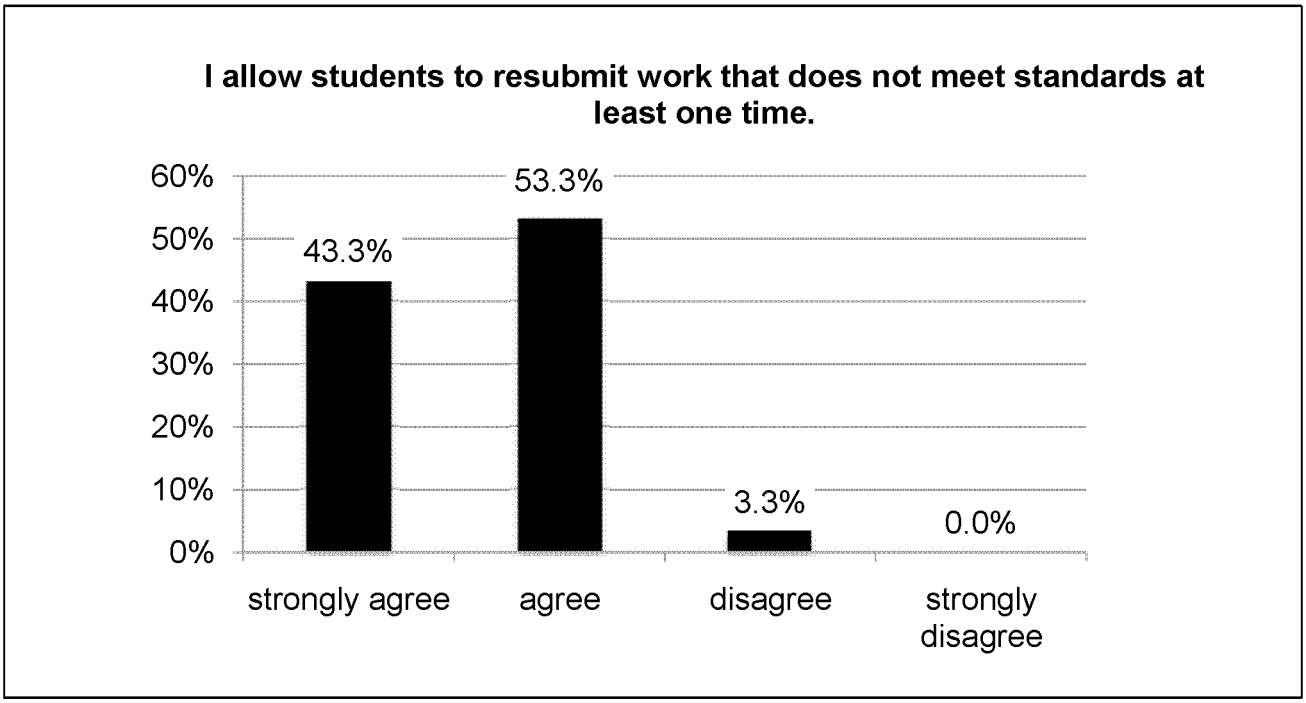

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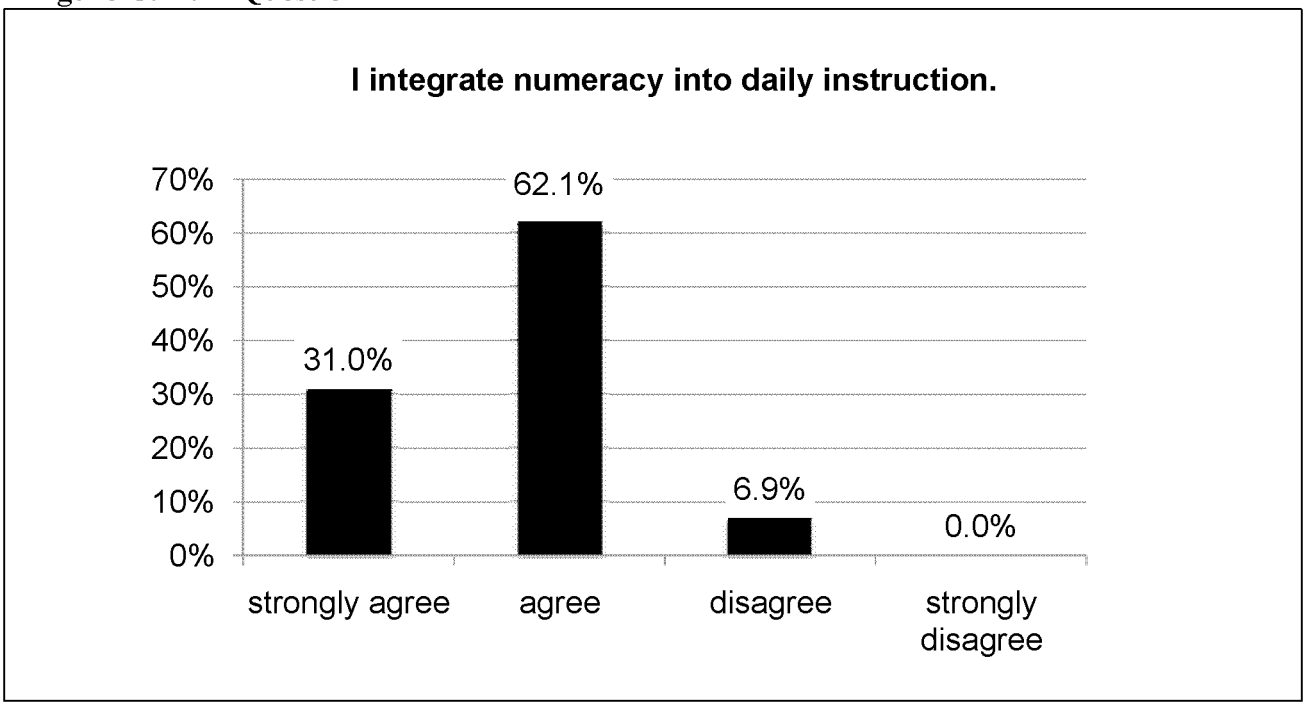

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Figure C.20.7 Question 7

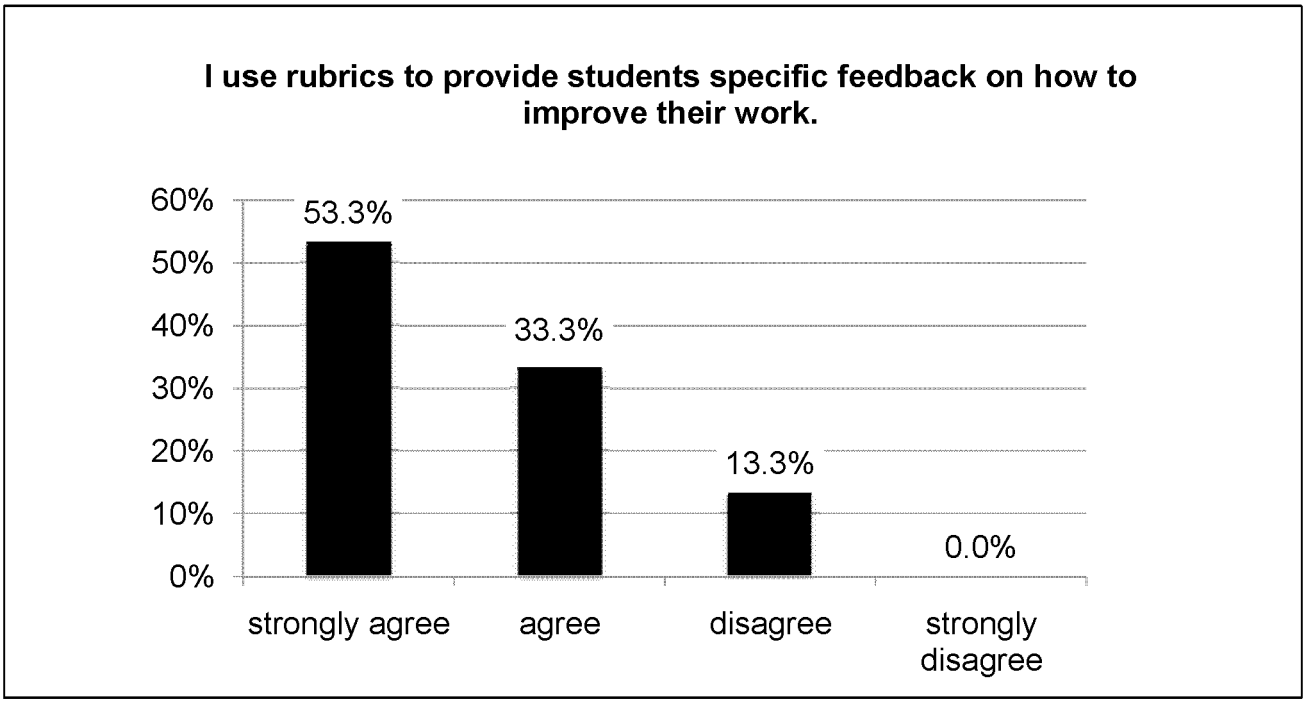

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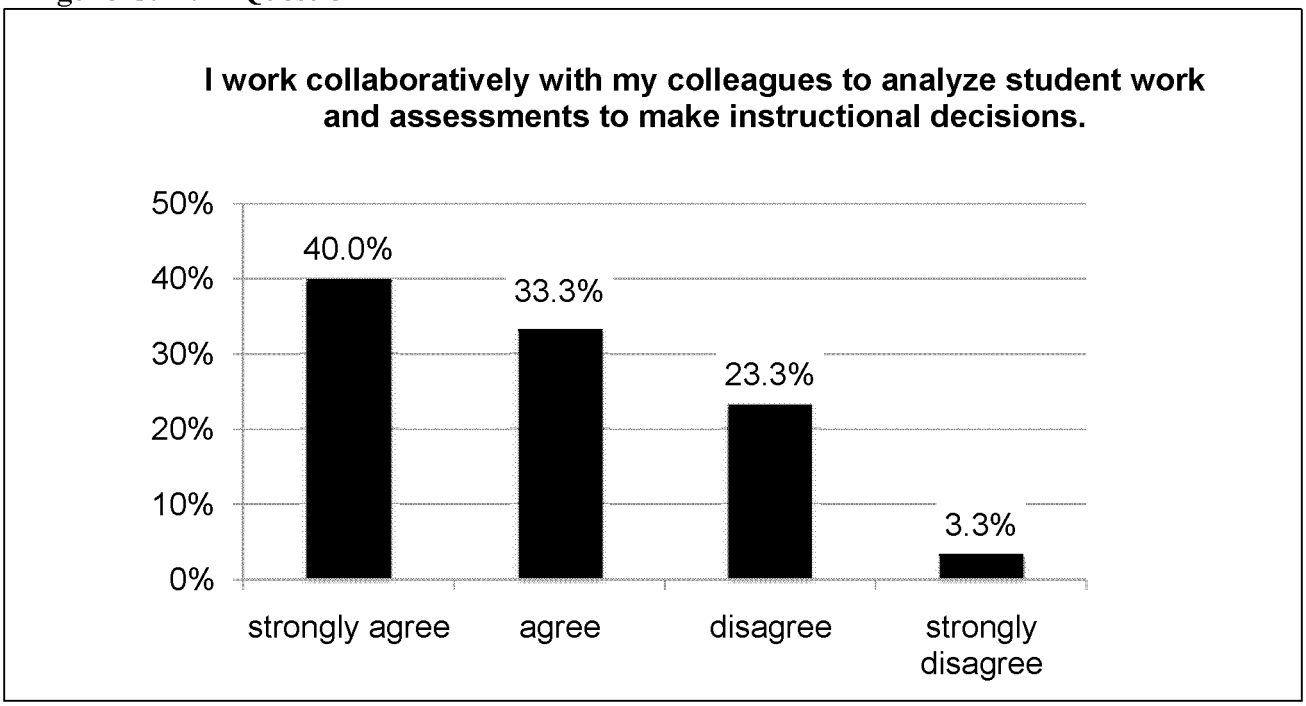
Figure C.20.8 Question 8



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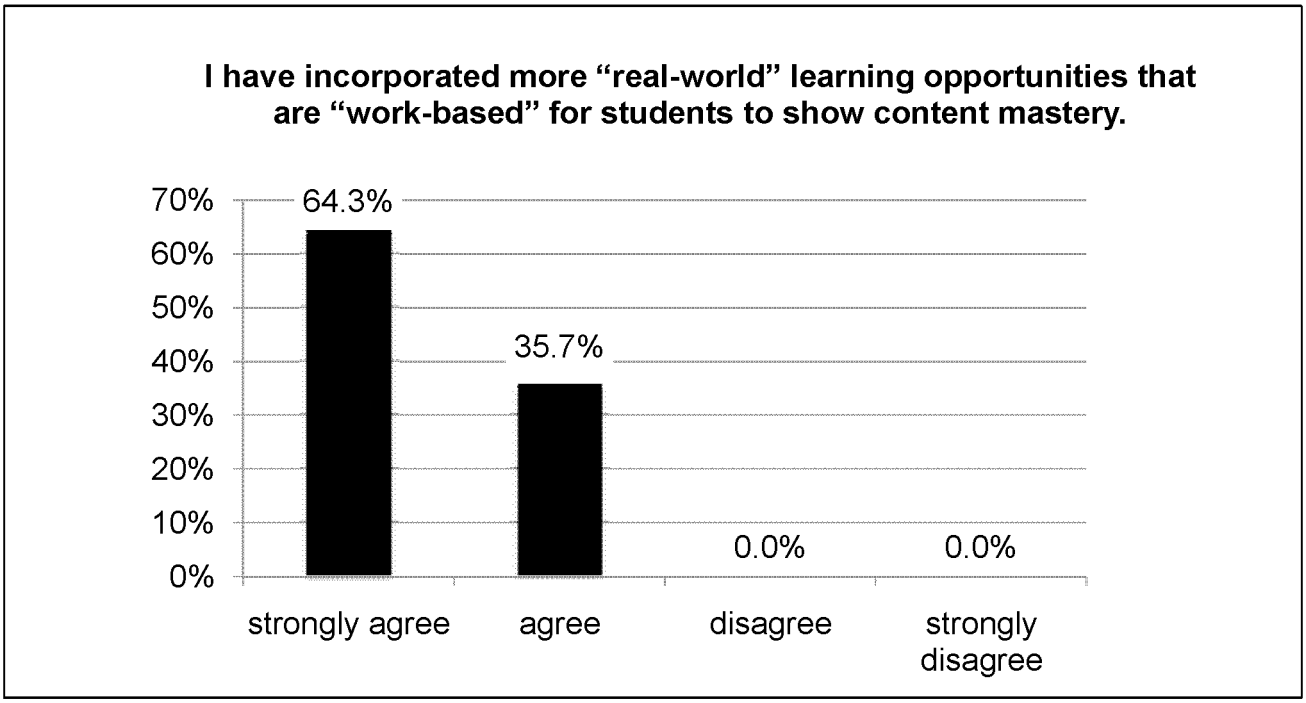

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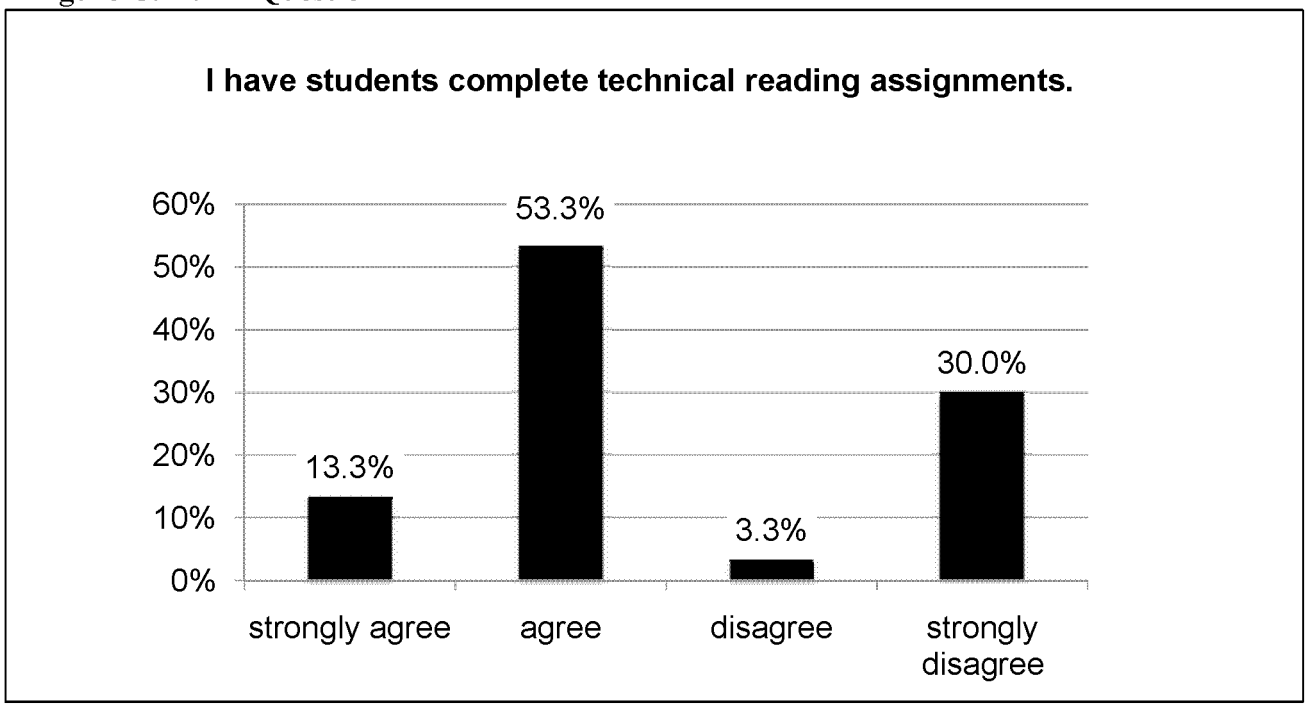

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Figure C.20.11, Question 11

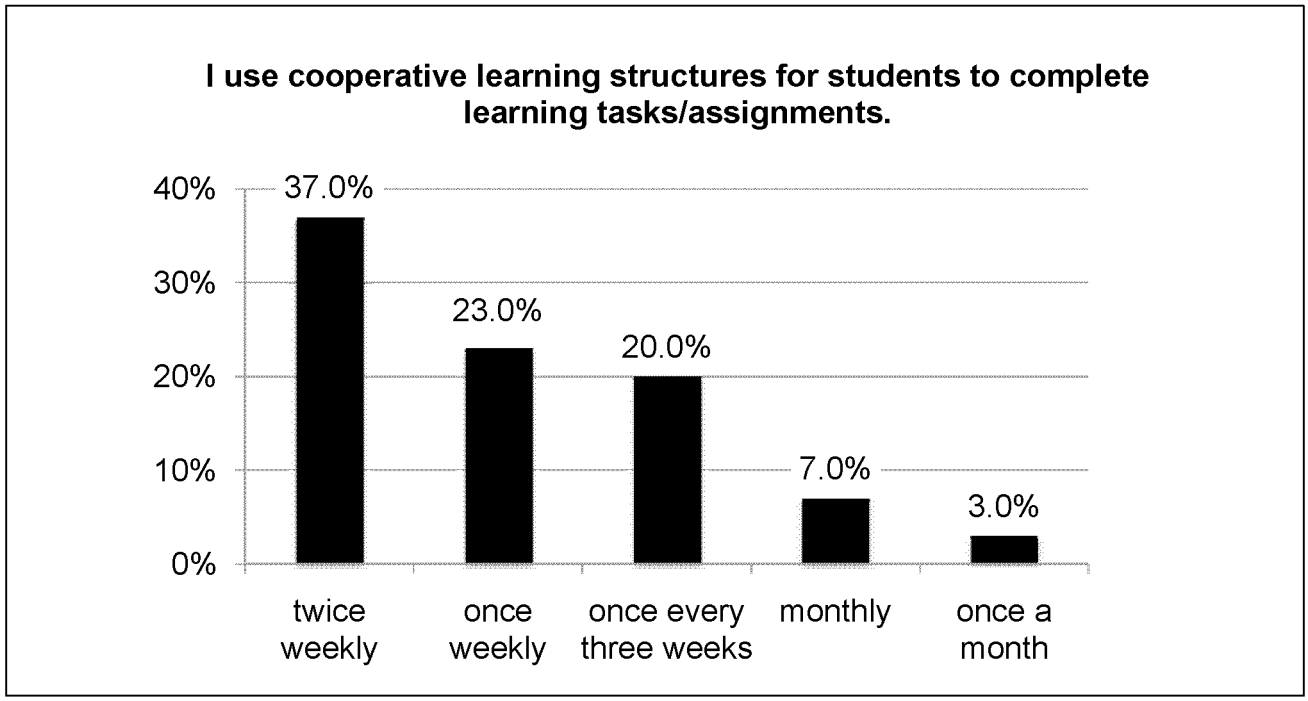

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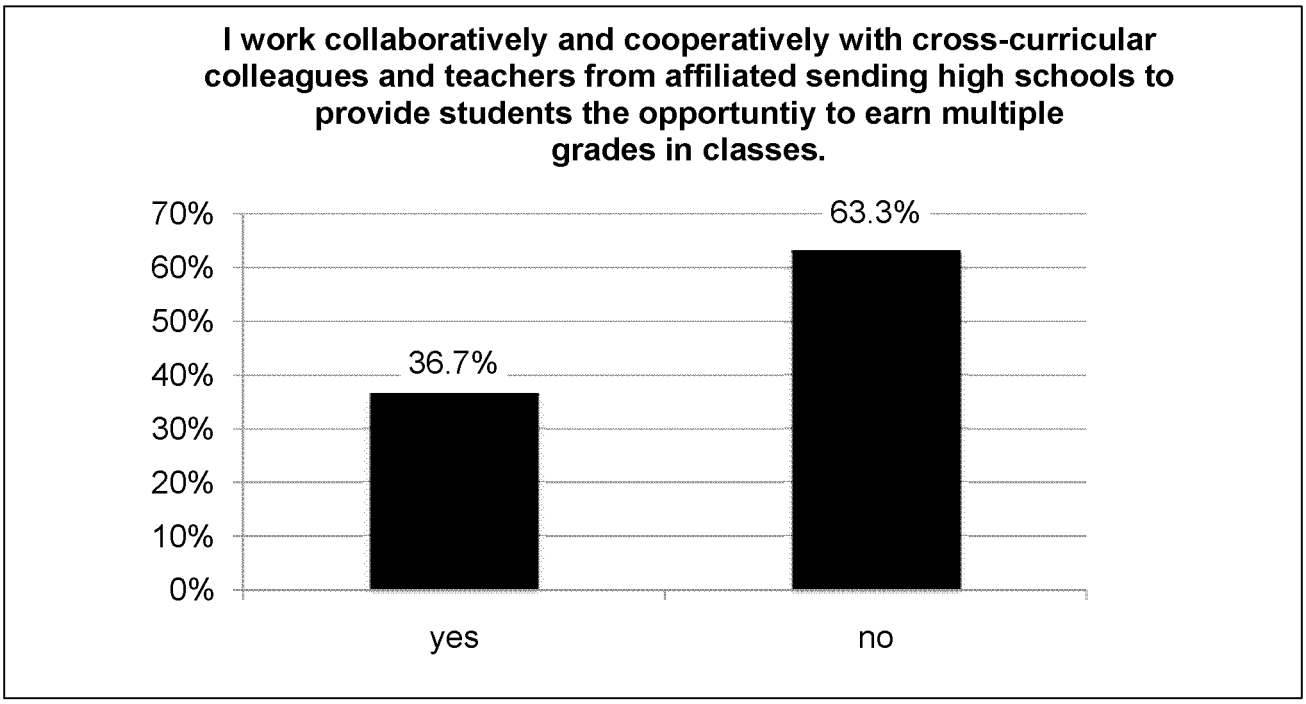
Figure C.20.12 Question 12



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Appendix D

Missouri Department of Education Implementation Audit™

Participation Response Summary

D.1 Participation Response Summary

The statewide Implementation Audit™ Degree of Implementation Survey was conducted from March 5 through March 17, 2010. Specifically, this survey collected information on three initiatives that were selected by the Missouri Department of Education.

These initiatives include:

1. Career and Technical Student Organizations
2. Professional Learning Communities
3. School-Wide Positive Behavior Support

Two categories of staff were identified in order to help disaggregate and make meaning of the results of the survey. Participants were asked to reference the following descriptions as they responded.

1. **Teaching Professional**: Grade-level teacher, content area teacher, special education teacher, specialist
2. **Building Administrator**: Principal or assistant principal

Participants were asked to respond to the initiative(s) that their school or district is implementing. If a school or district is not implementing a specific initiative, participants were asked to select the "not involved" response near the top of each survey page.

The total number of participants who started the survey was 4,445. Of that number, 3,467 participants completed the survey, or seventy-eight percent. **Note:** The number of survey respondents for each question (N=) is indicated below each figure.

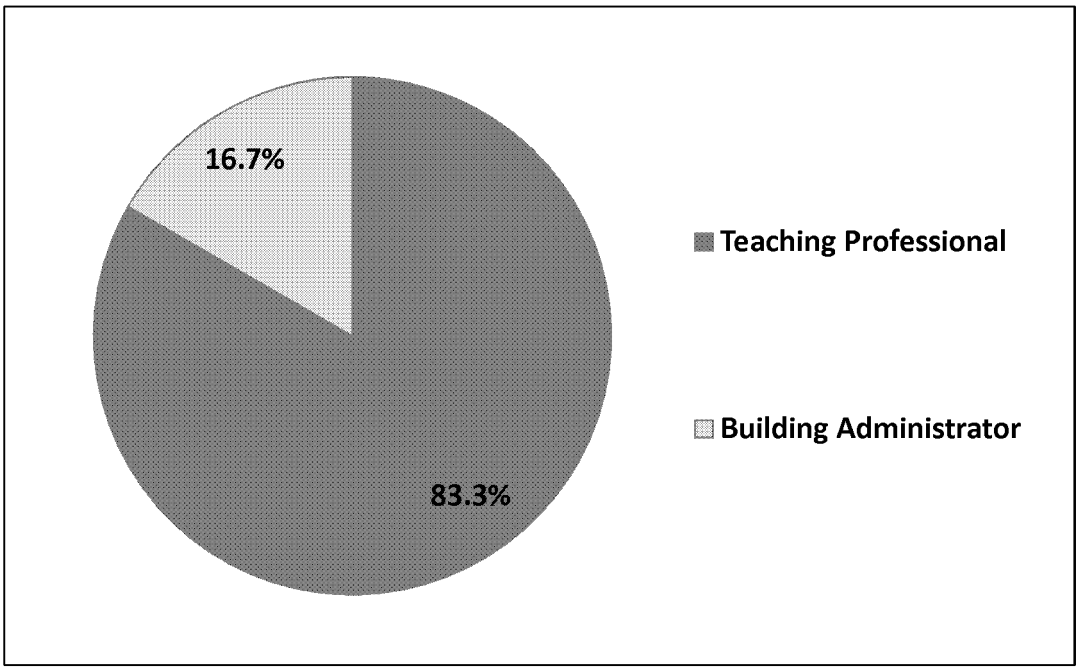
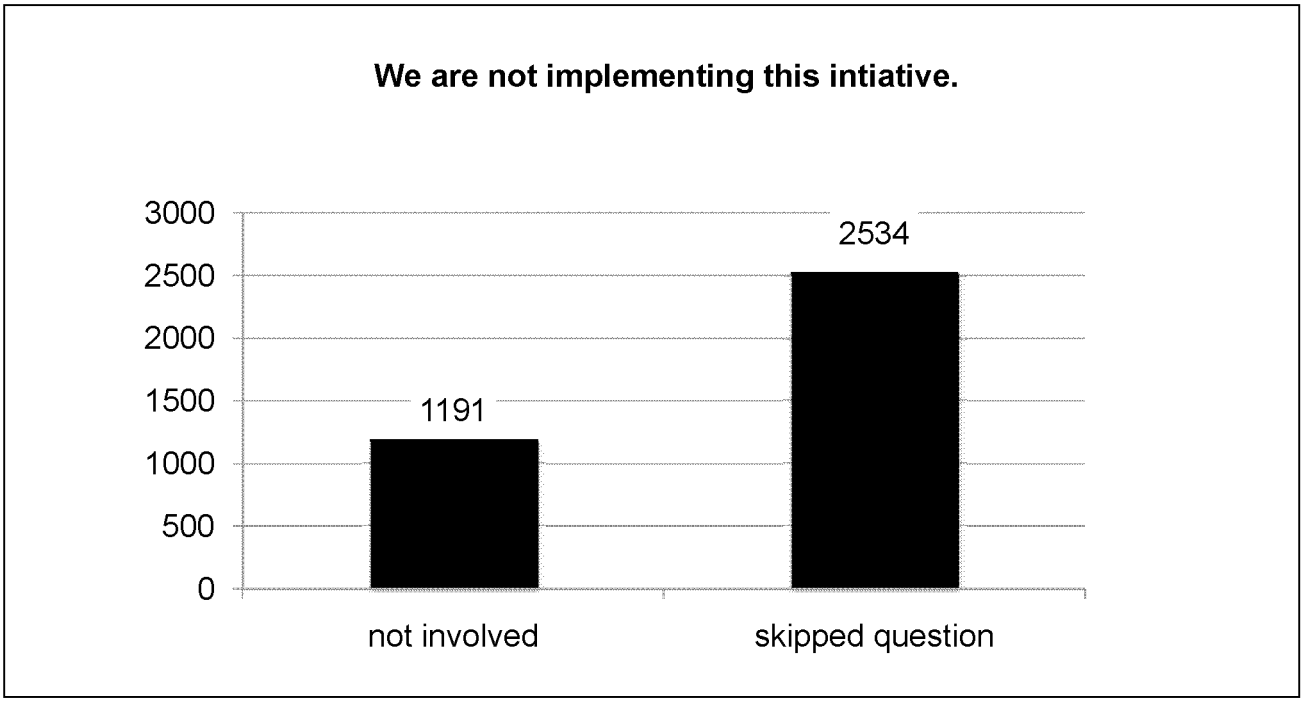


Figure D.1.1 Participation Graph

D.2 Career and Technical Student Organizations Survey Results

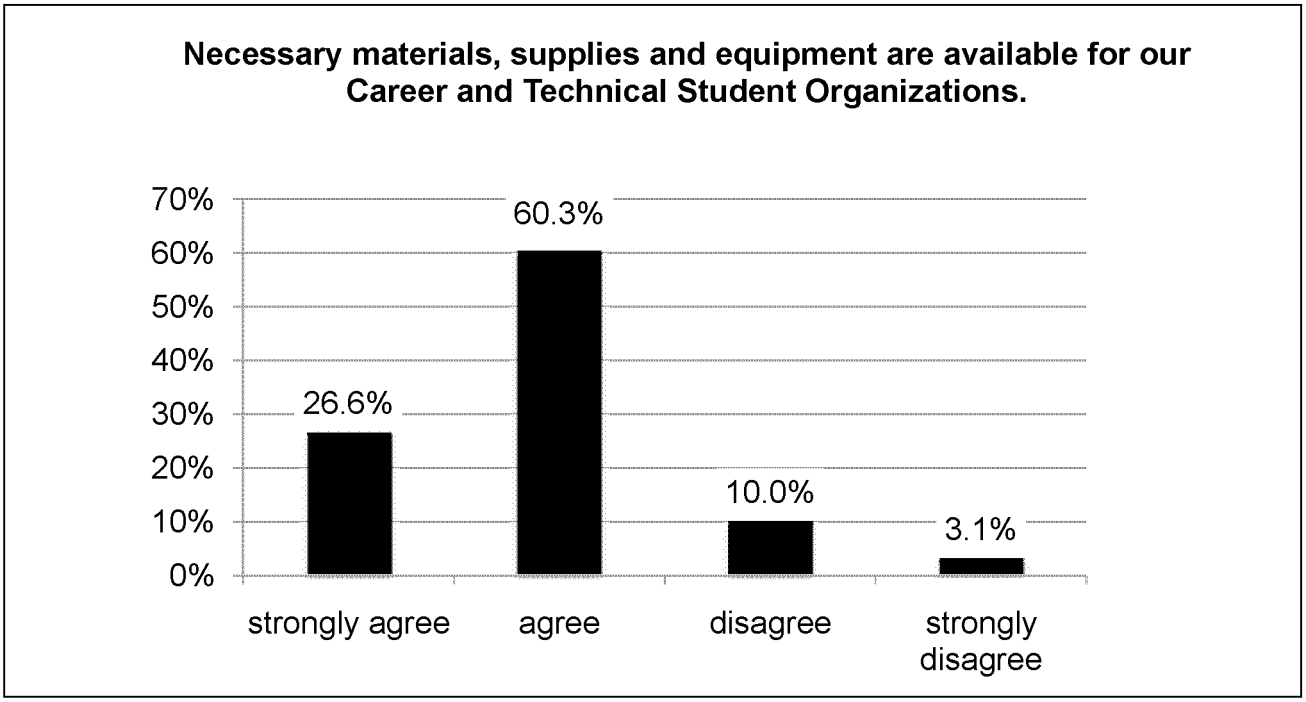
Career and Technical Student Organizations provide additional opportunities for students to develop and refine the skills required in their chosen occupational area through competitive event programs, community and school activities, student conferences and workshops. The Division of Career Education supports the following Career and Technical Student Organizations: Future Business Leaders of America, Future Farmers of America, Family Career and Community Leaders of America, Health Occupations Students of America, Skills USA, and the Technology Student Association.

Figure D.2.1 Question 1



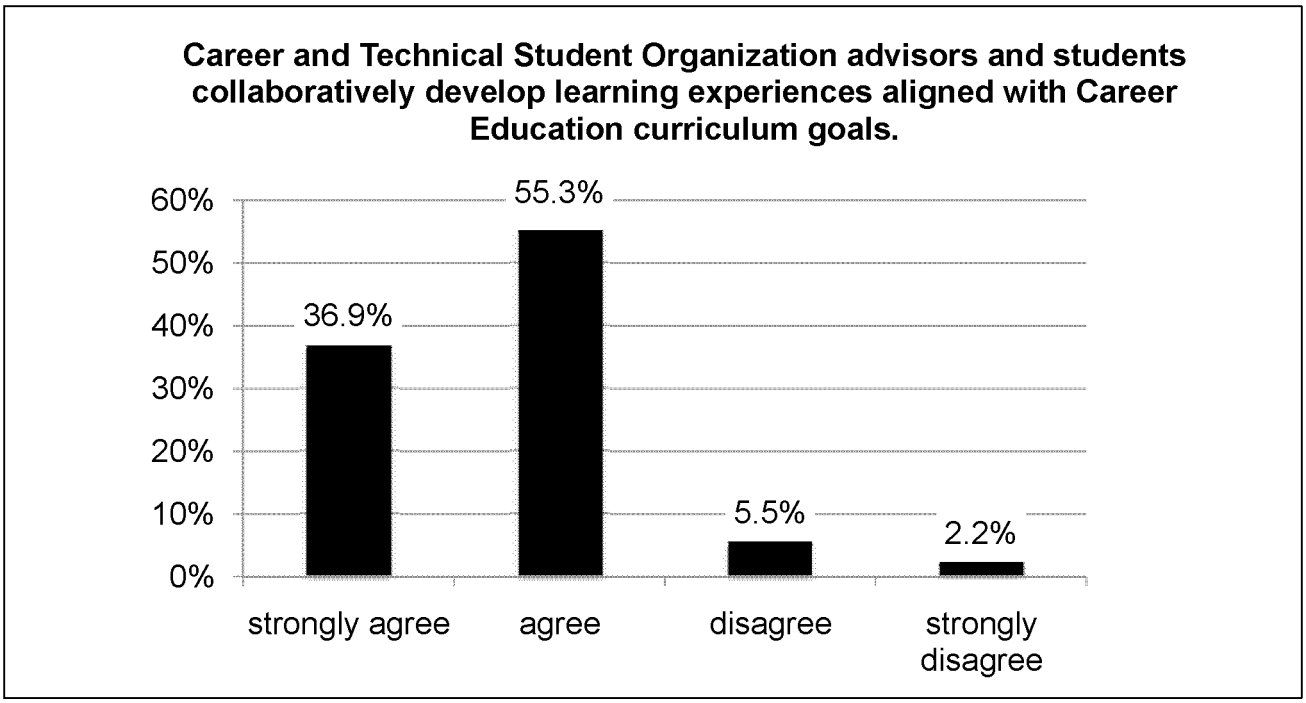
(N=1191)

Figure D.2.2 Question 2



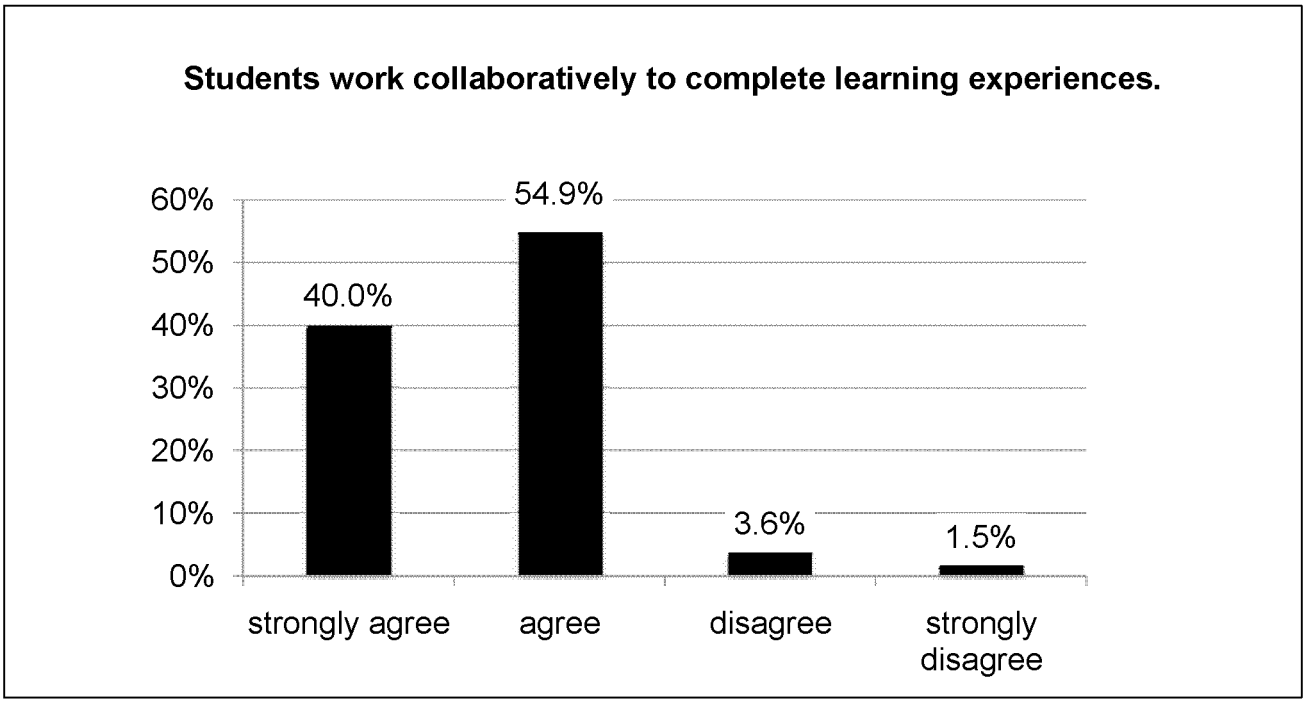
(N=1892)

Figure D.2.3 Question 3



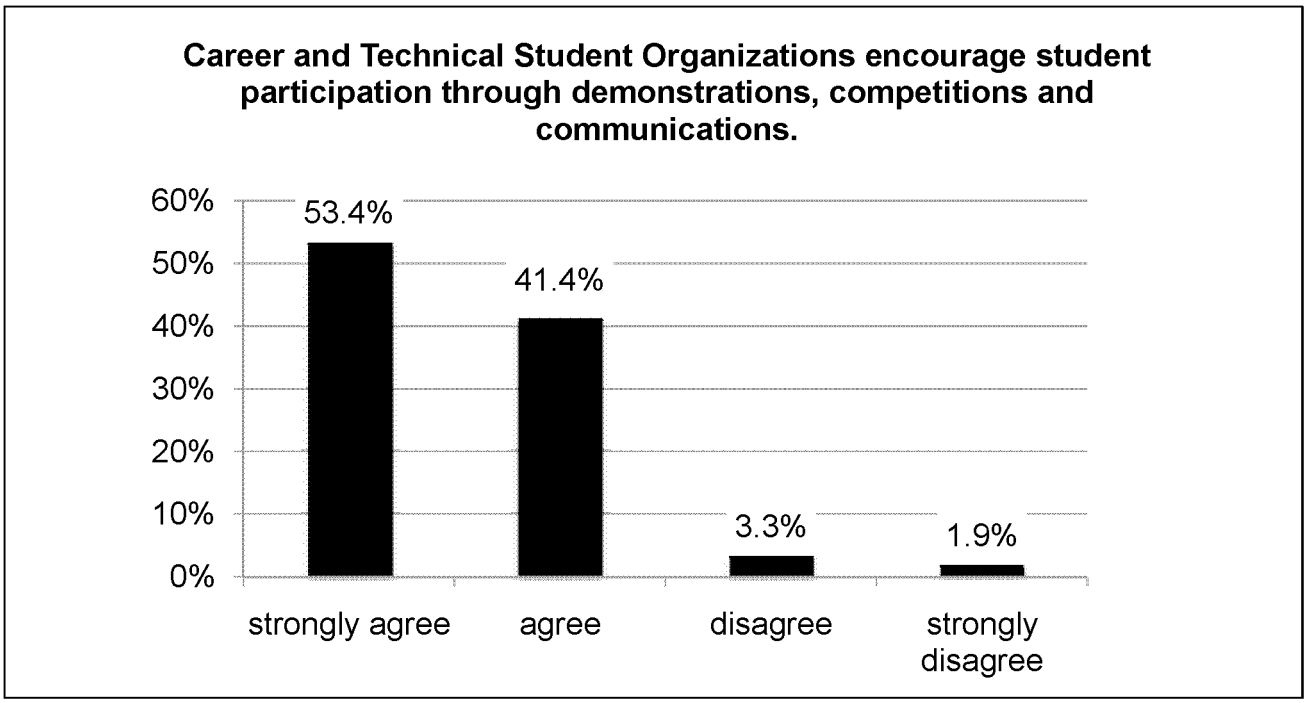
(N=1892)

Figure D.2.4 Question 4



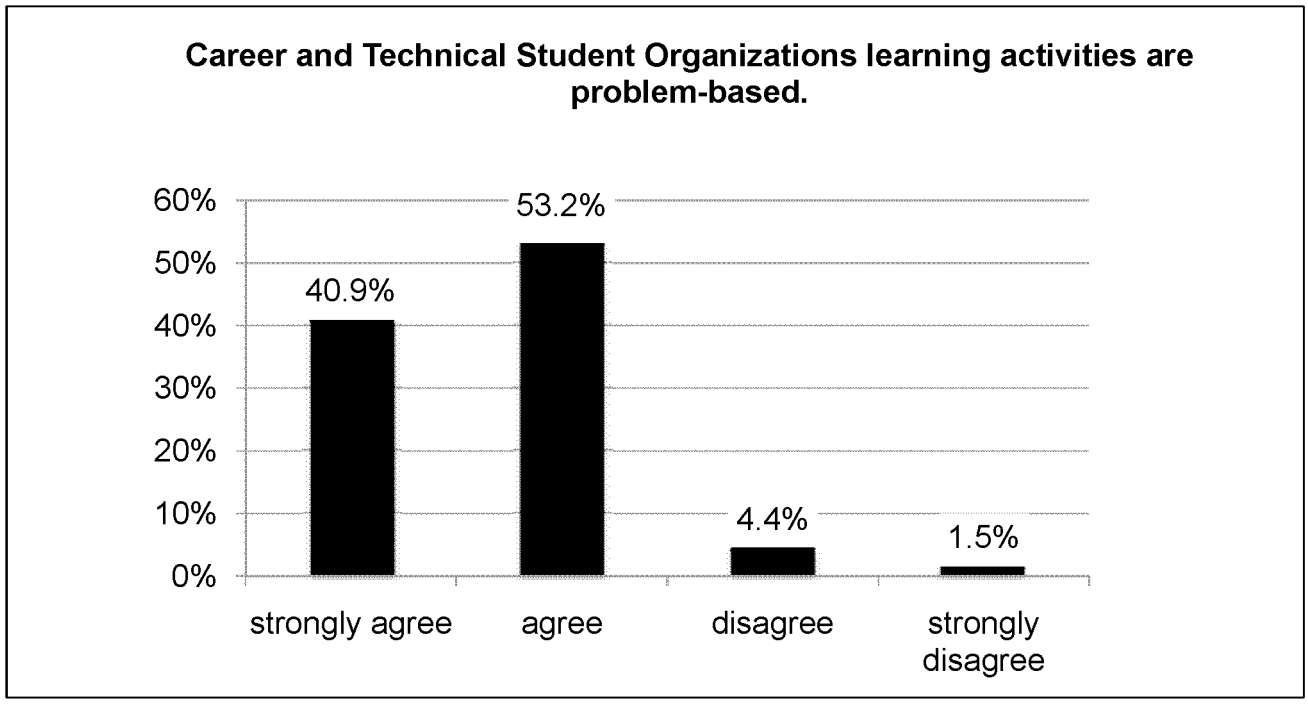
(N=1881)

Figure D.2.5 Question 5



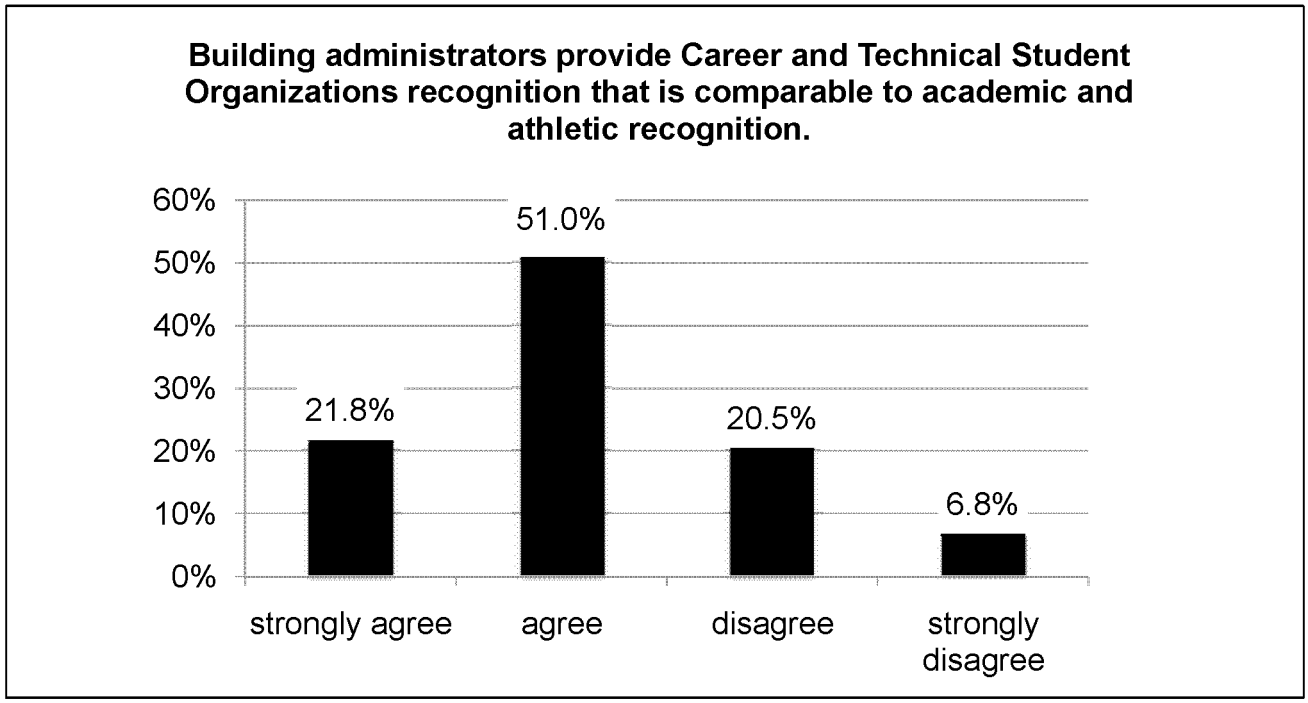
(N=1874)

Figure D.2.6 Question 6



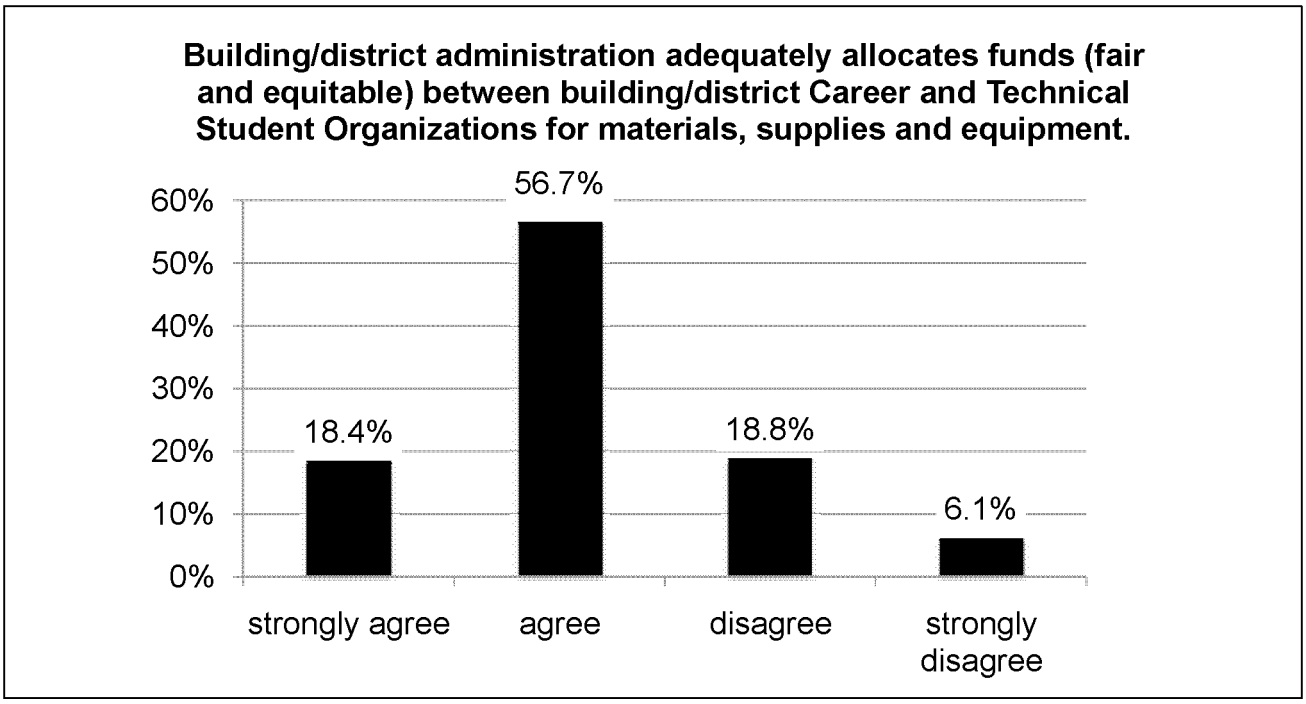
(N=1860)

Figure D.2.7 Question 7



(N=1861)

Figure D.2.8 Question 8

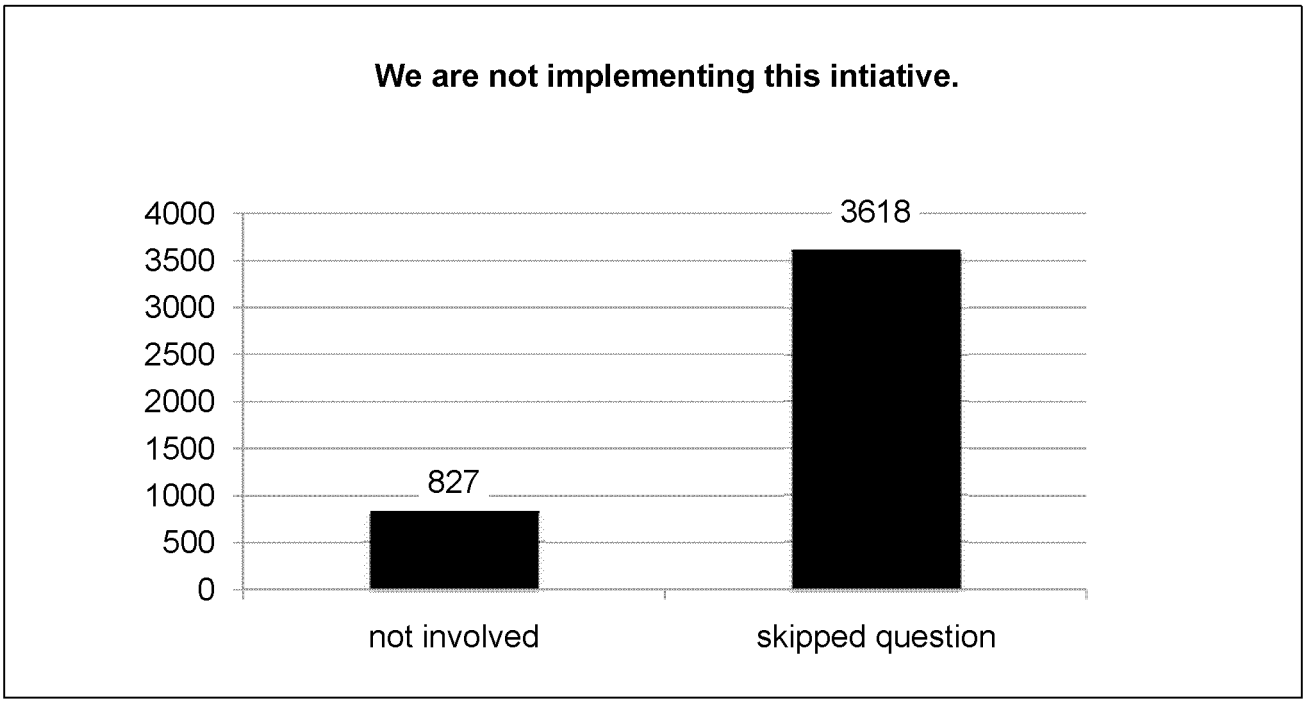


(N=1856)

D.3 Professional Learning Communities

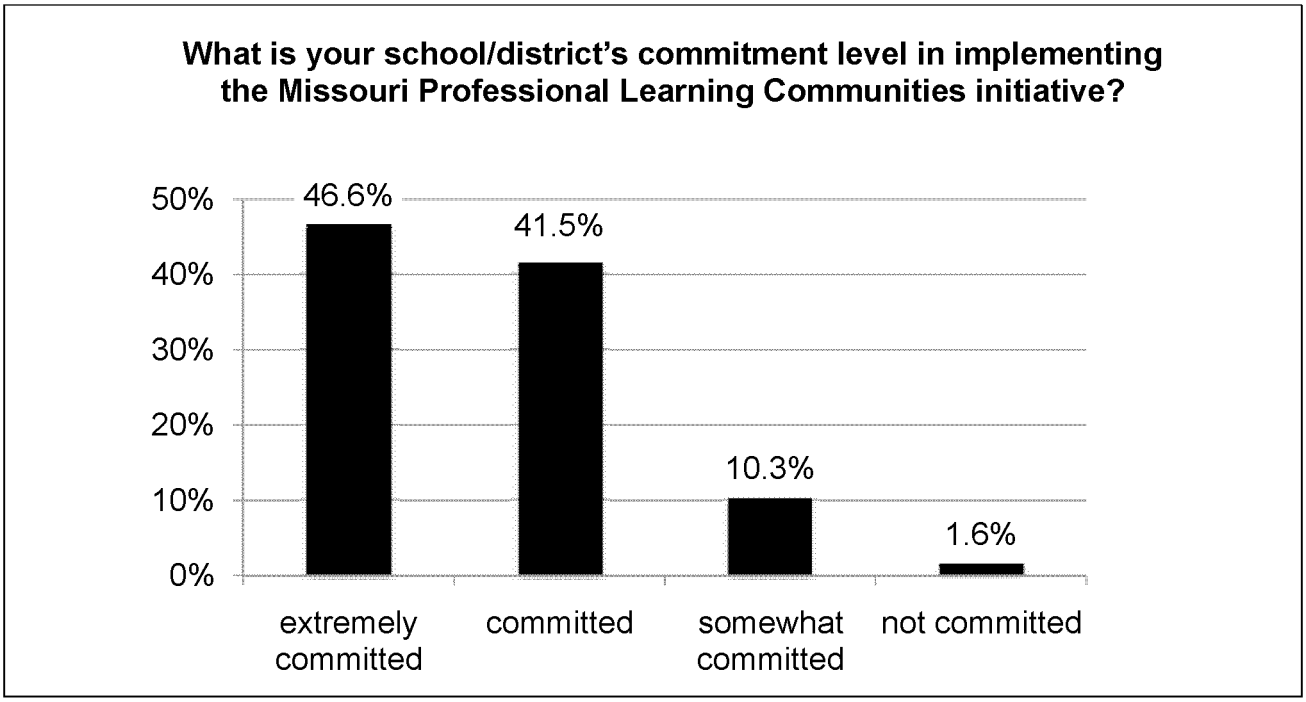
The Missouri Professional Learning Communities project is a comprehensive school improvement program that offers guidance to Missouri schools in their efforts to focus on the fundamental purpose of school.

Figure D.3.1 Question 1



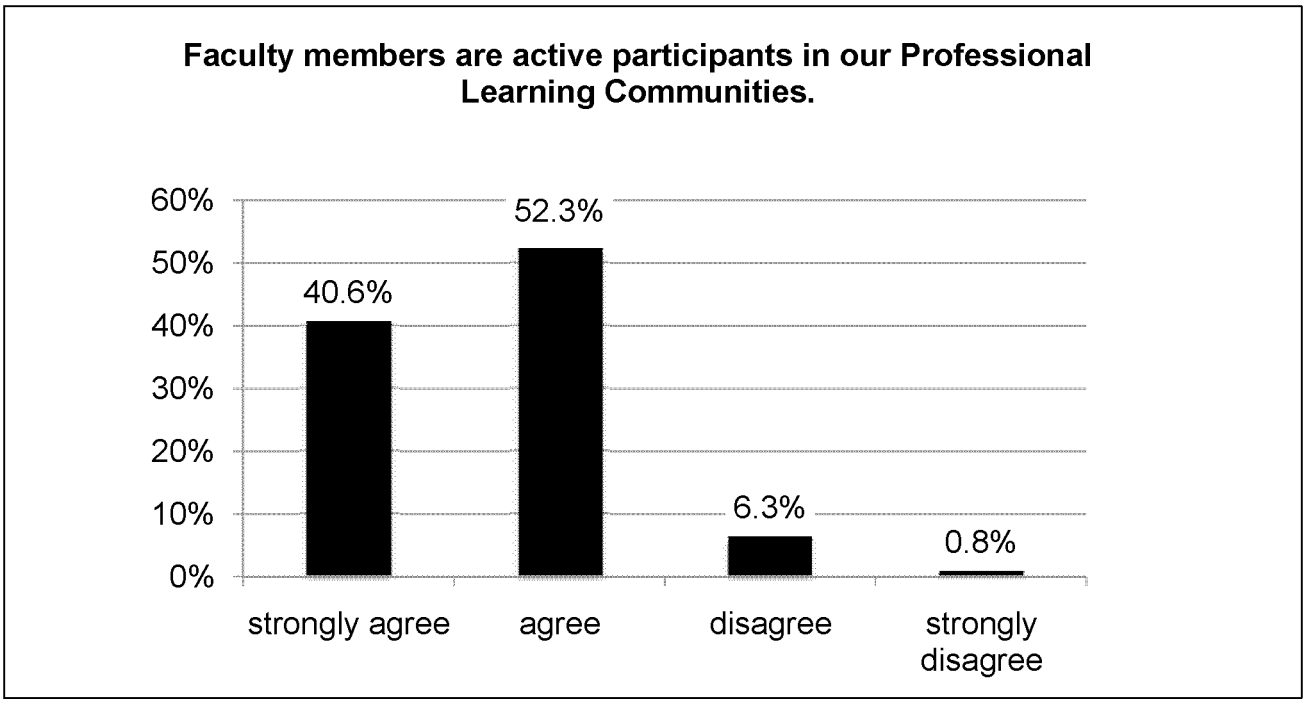
(N=827)

Figure D.3.2 Question 2



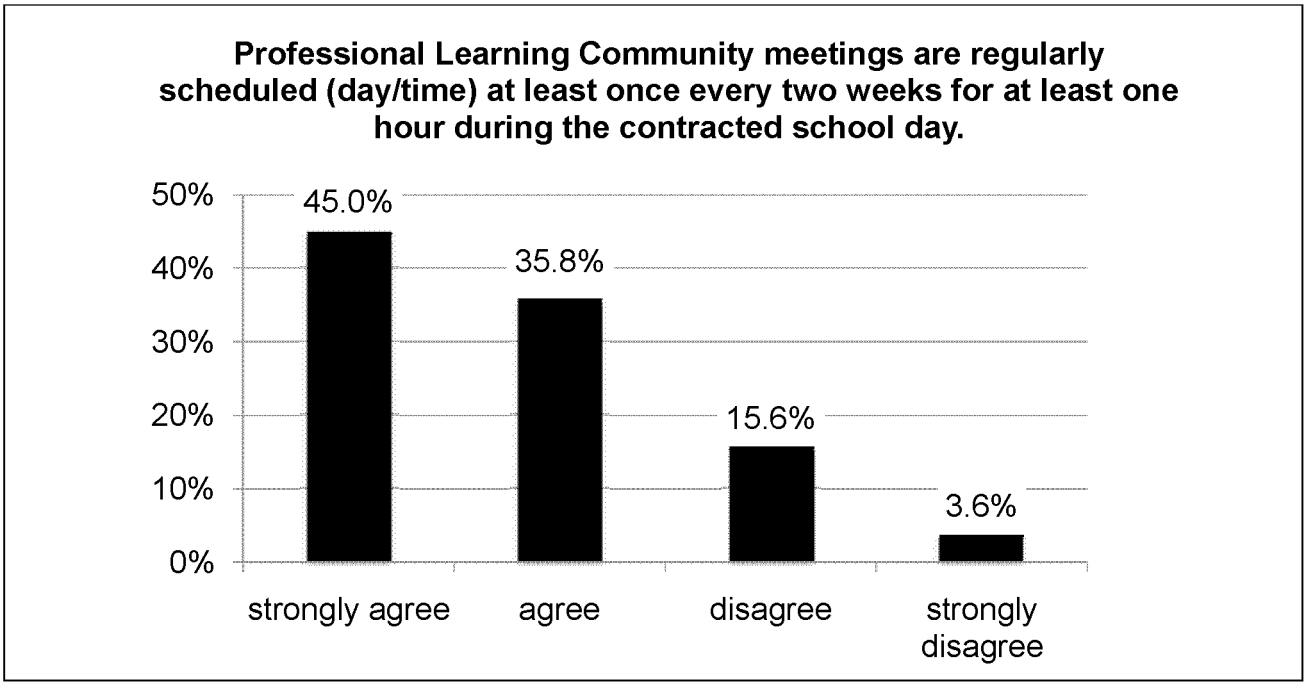
(N=2701)

Figure D.3.3 Question 3



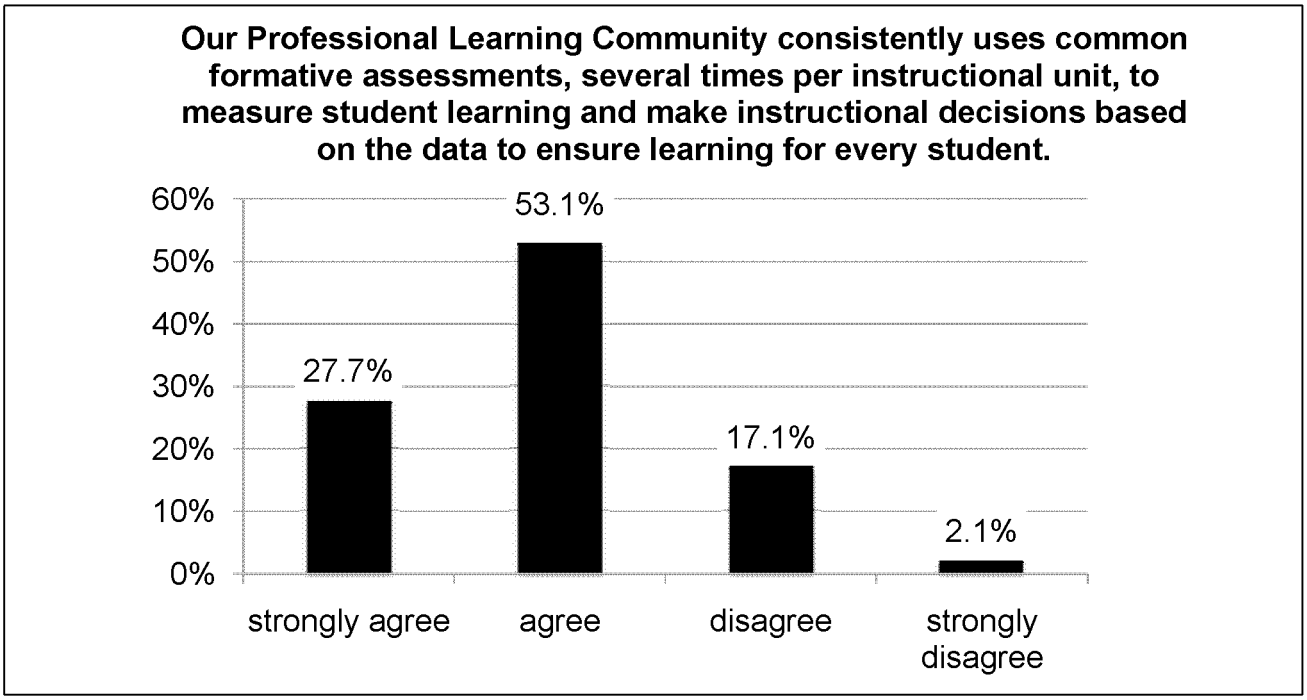
(N=2684)

Figure D.3.4 Question 4



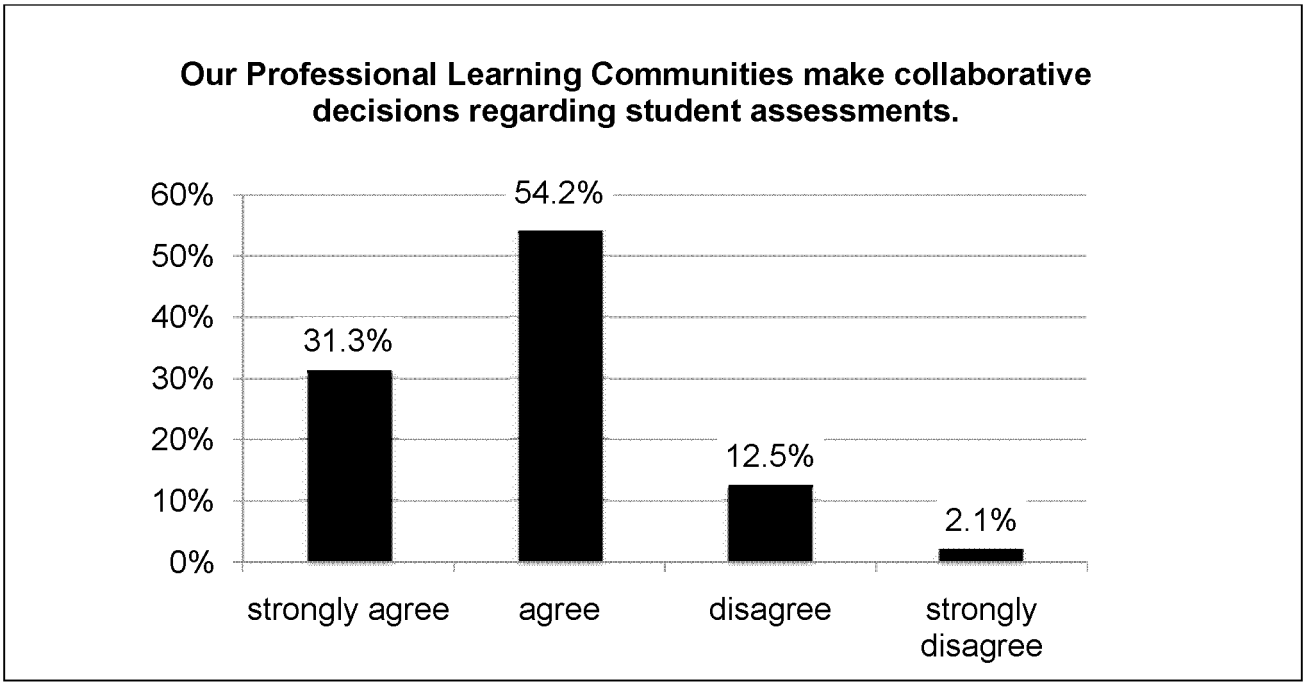
(N=2663)

Figure D.3.5 Question 5



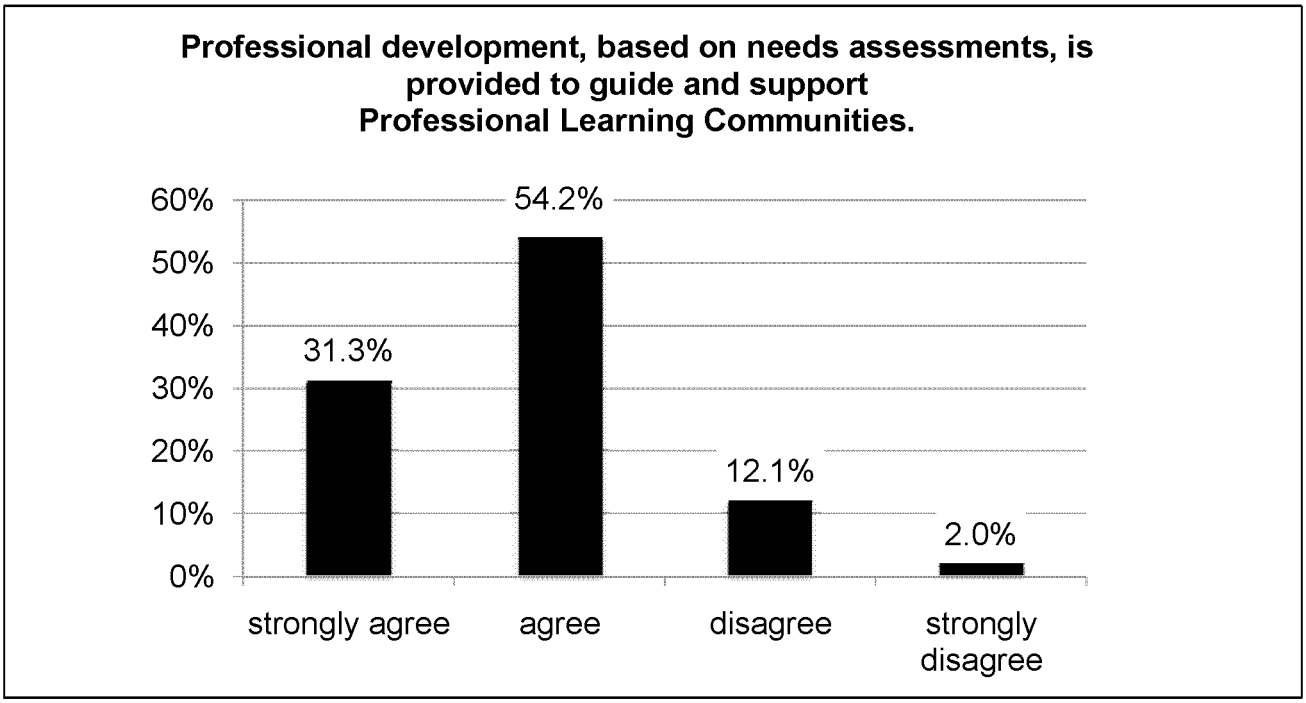
(N=2661)

Figure D.3.6 Question 6



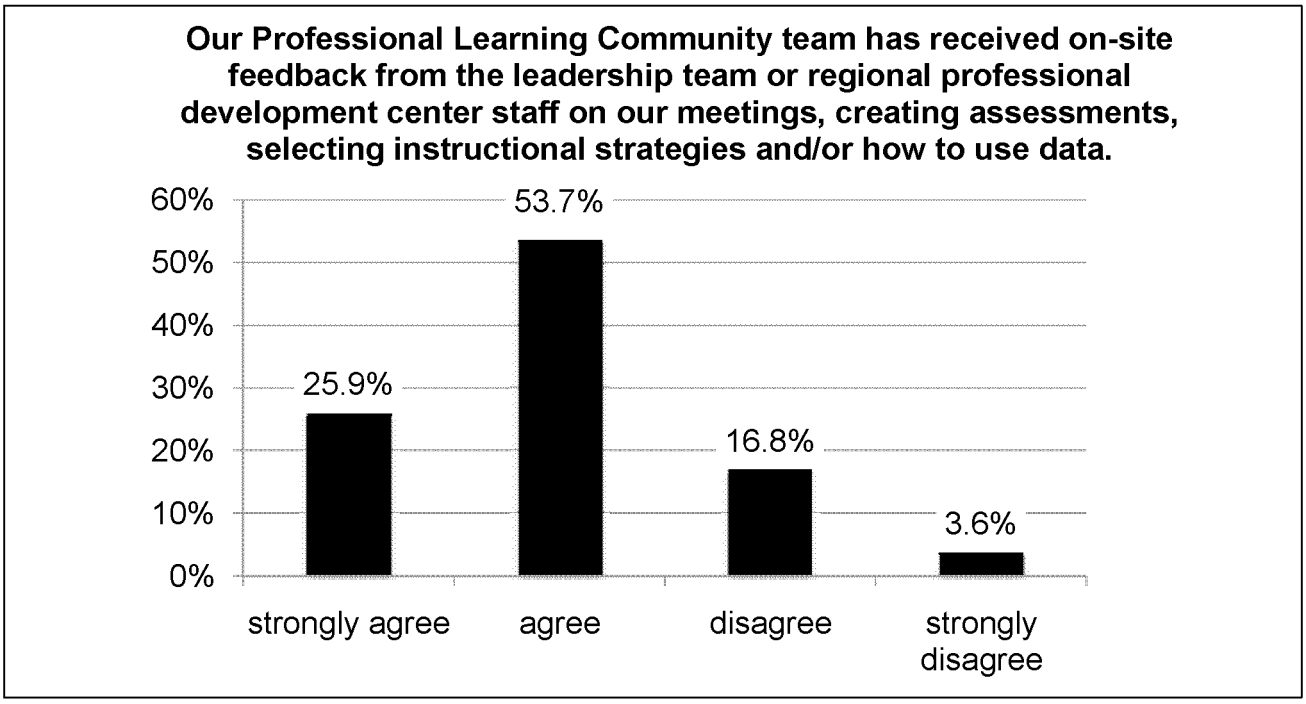
(N=2648)

Figure D.3.7 Question 7



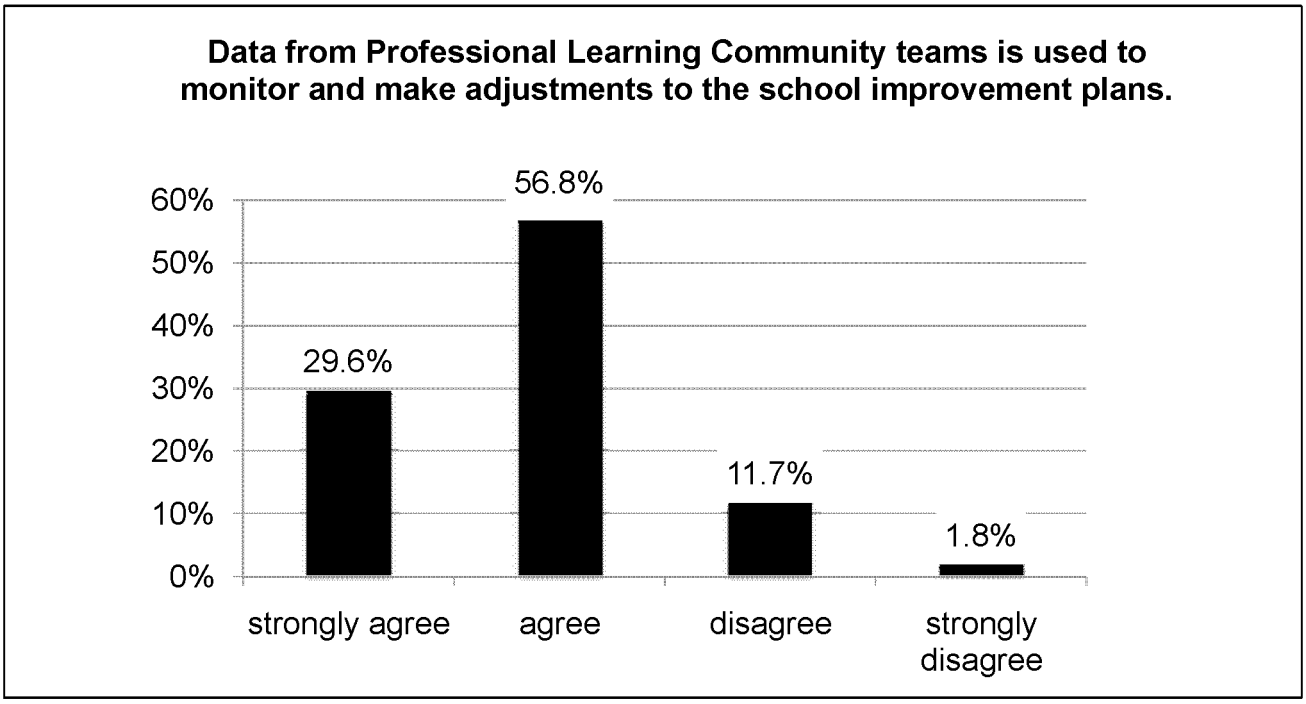
(N=2653)

Figure D.3.8 Question 8



(N=2613)

Figure D.3.9 Question 9

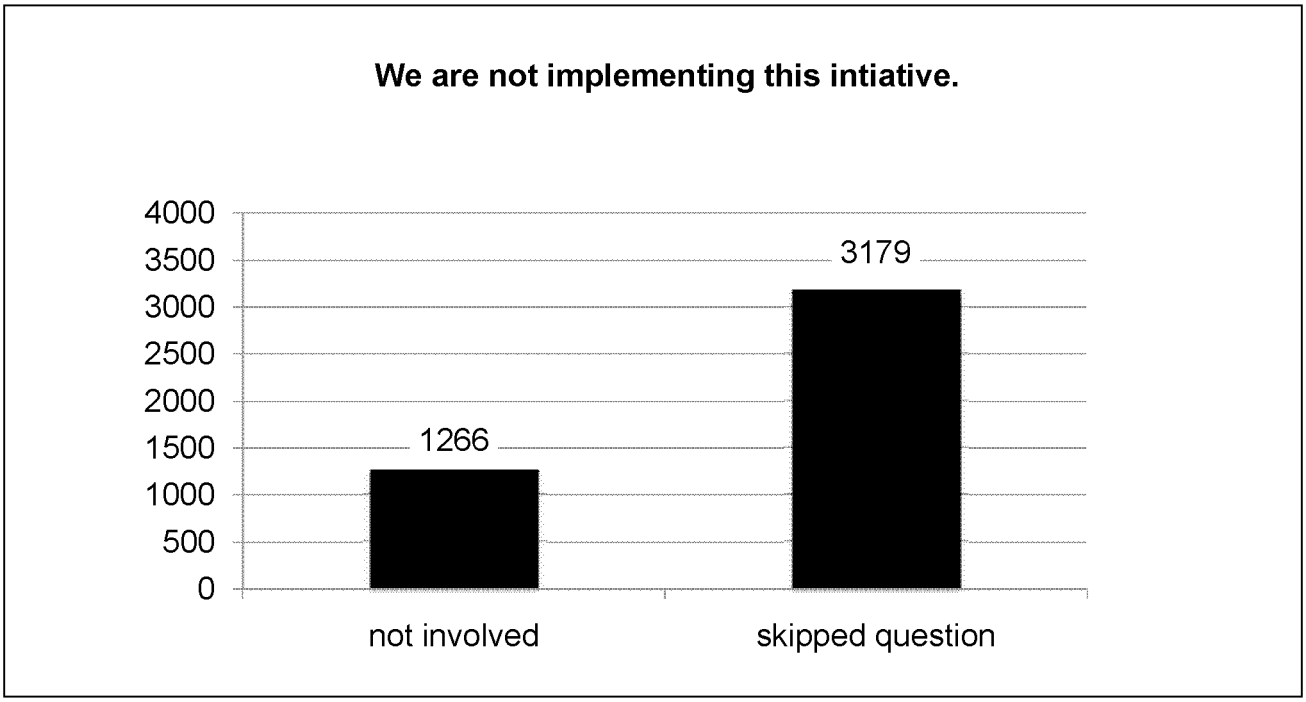


(N=2637)

D.4 School-Wide Positive Behavior Support

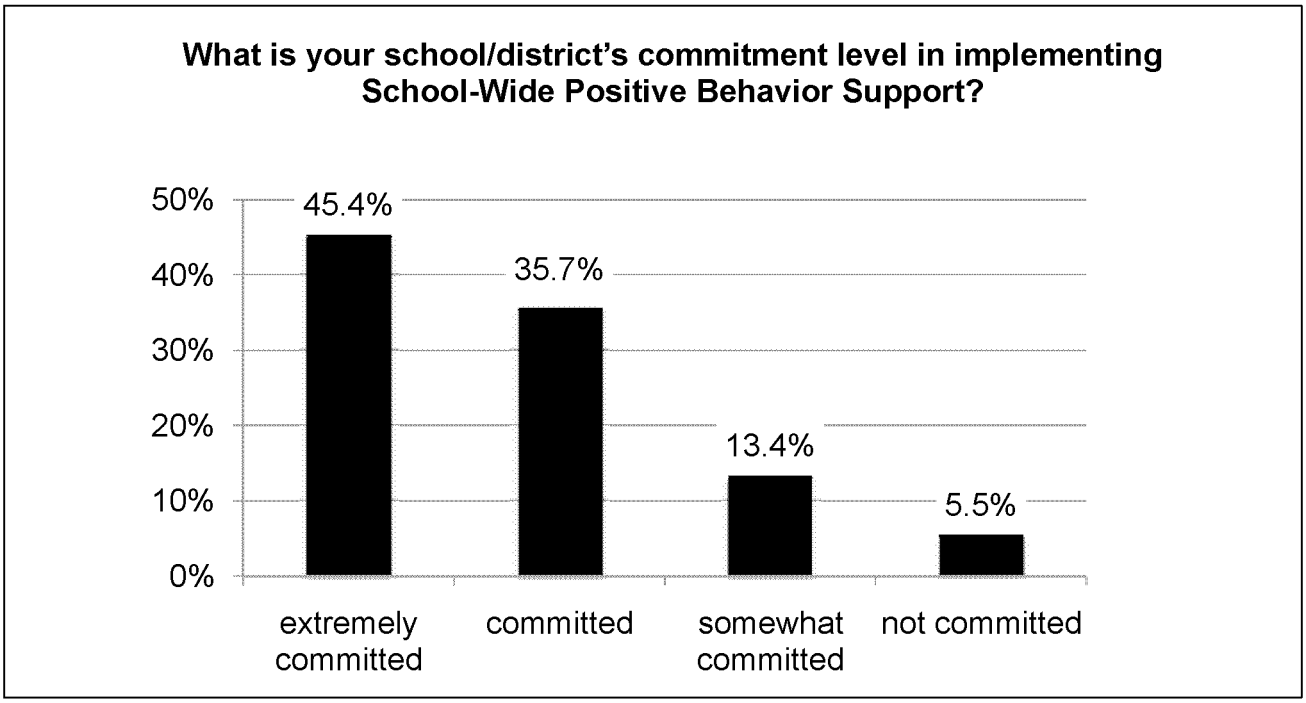
Improving student academic and behavior outcomes is about ensuring that all students have access to the most effective and accurately implemented instructional and behavioral practices and interventions possible. This program provides an operational framework for achieving these outcomes. More importantly, School-Wide Positive Behavior Support is not a curriculum, intervention, or practice, but is a decision making framework that guides selection, integration, and implementation of the best evidence-based academic and behavioral practices for improving important academic and behavioral outcomes for all students.

Figure D.4.1 Question 1



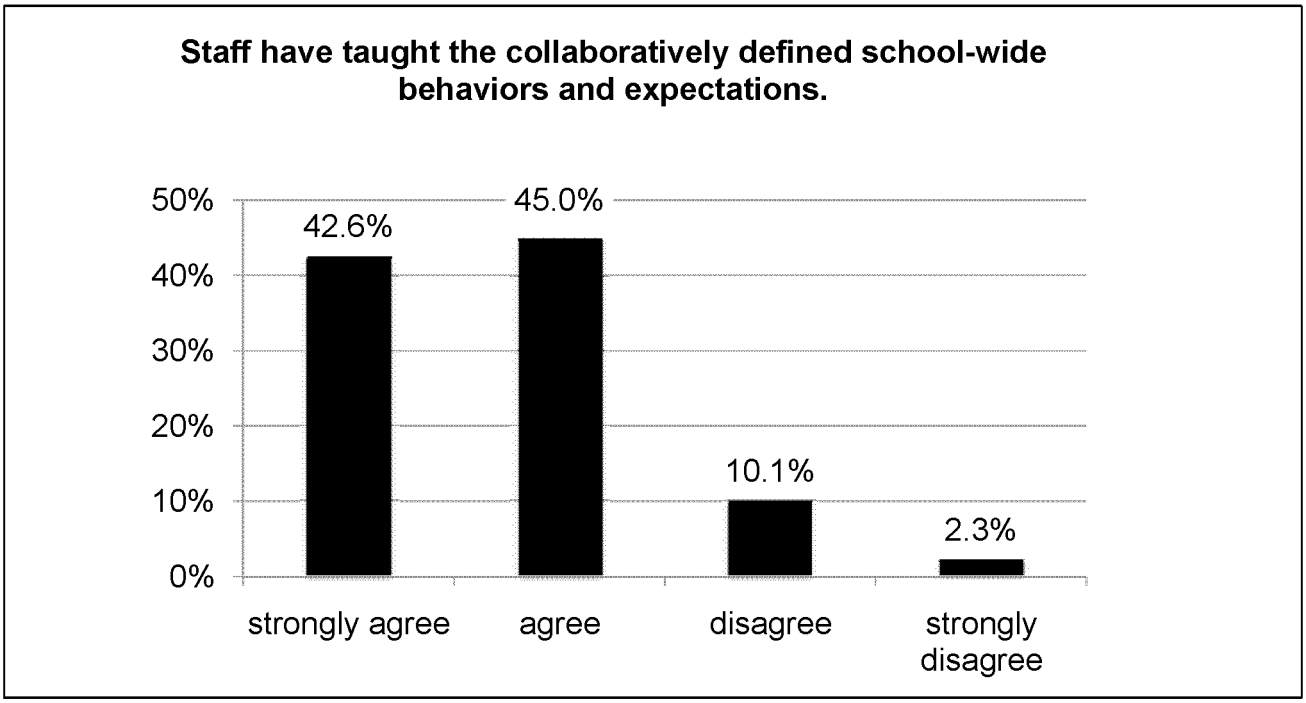
(N=1266)

Figure D.4.2 Question 2



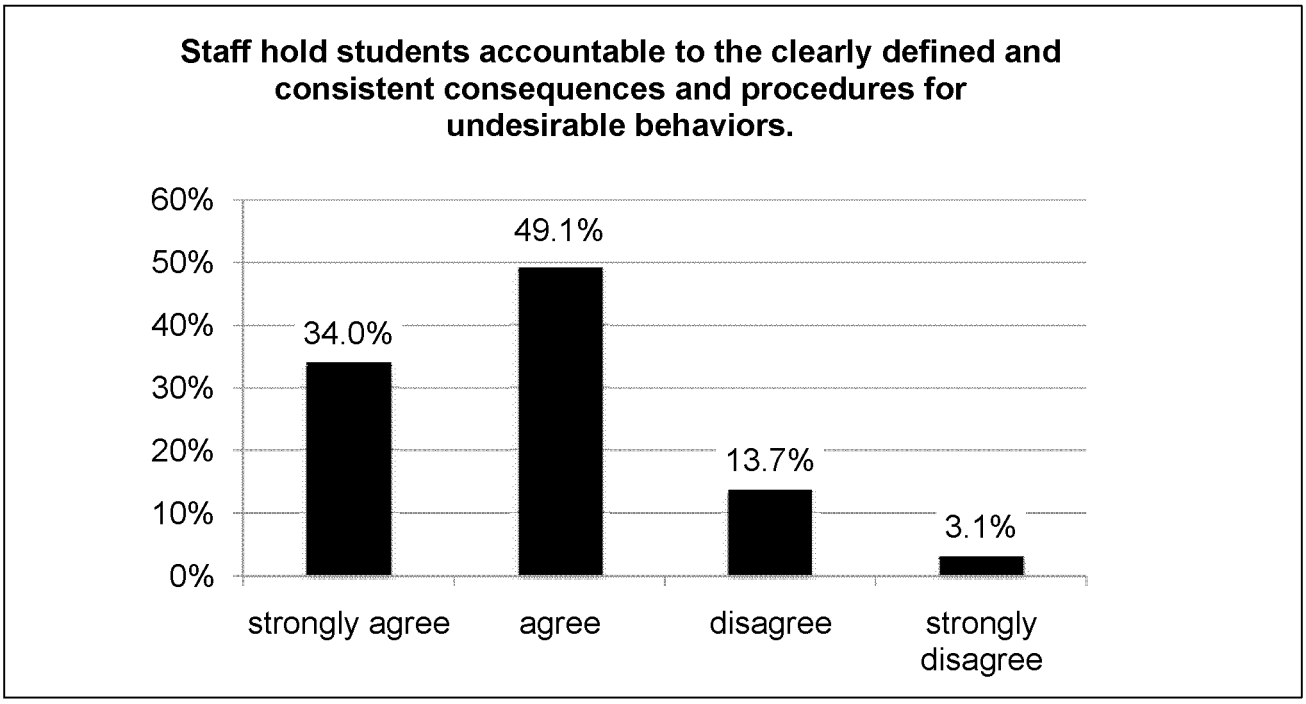
(N=2311)

Figure D.4.3 Question 3



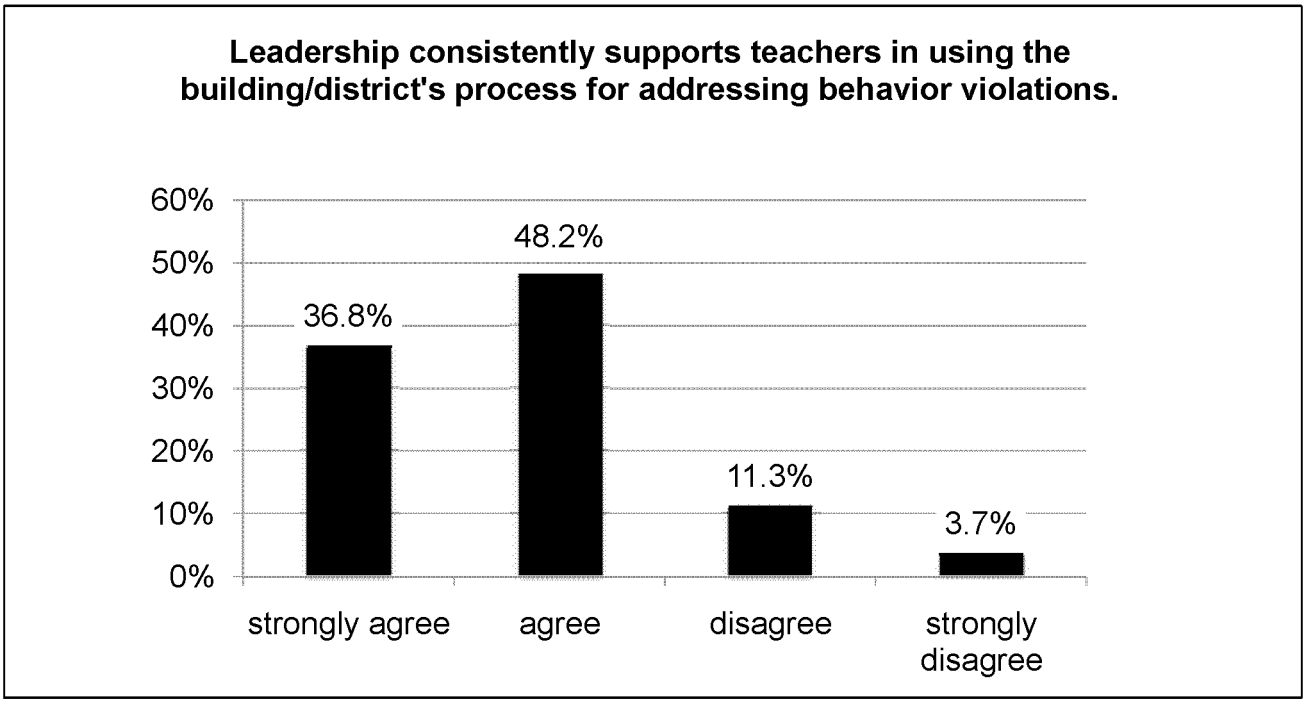
(N=2262)

Figure D.4.4 Question 4



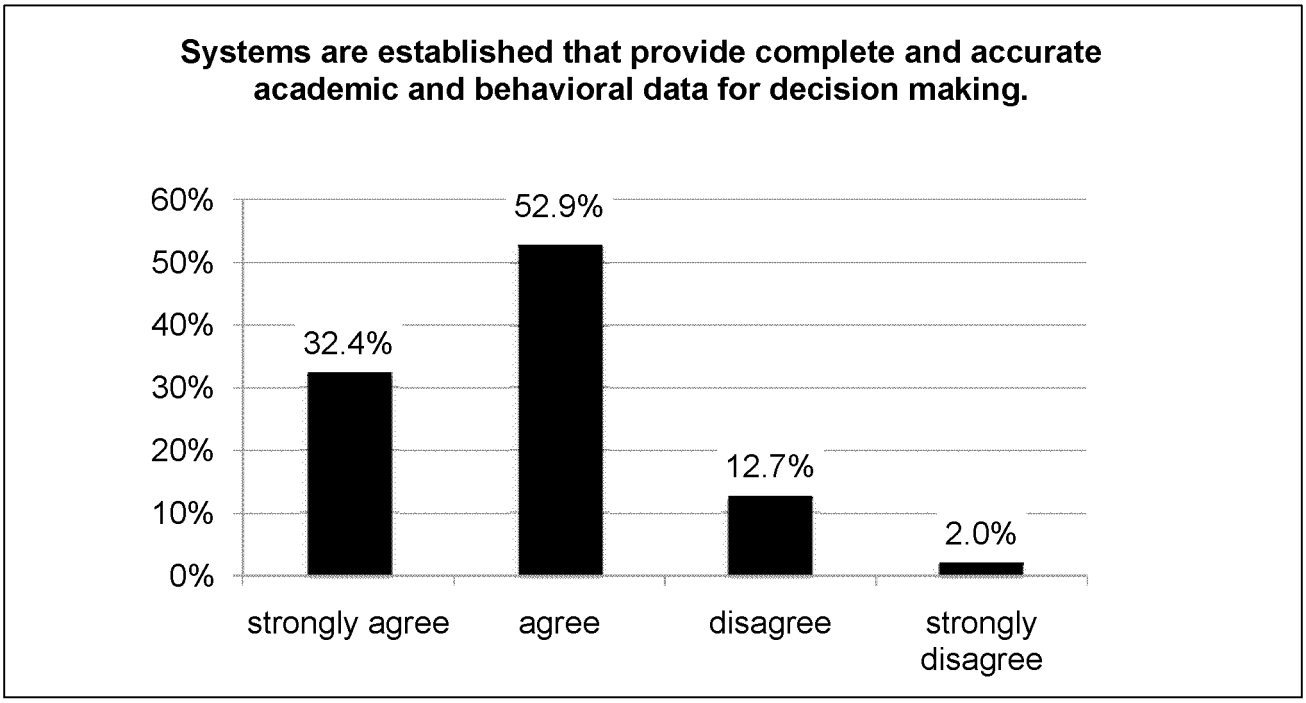
(N=2263)

Figure D.4.5 Question 5



(N=2250)

Figure D.4.6 Question 6



(N=2248)

Appendix E

Missouri Department of Education Implementation Audit™

Rubrics

Missouri Department of Elementary and Secondary Education
Implementation Rubric

Initiative: 21st Century Community Learning Center (CCLC)—Afterschool Program

Description: This program supports the creation of community learning centers that provide academic enrichment opportunities during non-school hours for children, particularly students who attend high-poverty and low-performing schools. The program helps students meet state and local student standards in core academic subjects, such as reading and math; offers students a broad array of enrichment activities that can complement their regular academic programs; and offers literacy and other educational services to the families of participating children.

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21st Century Community Learning Center

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • The school's 21st CCLC/Afterschool Program is aligned to students' classroom curriculum/ standards and extends learning through hands-on experiences. (PI, D) • The school's 21st CCLC/Afterschool Program is open during school vacations, holidays, summers, etc. in response to family needs in the community. (PI, D) • Parent participation in 21st CCLC/Afterschool parent education programs is high. (PI, S)	• The school's 21st CCLC/ Afterschool Program offers a strong balance of academic, social, leisure/recreation, and life-skills learning experiences that extend students' learning from the school day. (PI, D, S) • All necessary materials, supplies, resources (including space) and equipment (including technology) for programs are offered. (PI, S) • Resources are aligned with program goals and objectives. (PI) • The 21st CCLC/Afterschool Program communicates monthly with parents and offers educational opportunities such as workshops, newsletters, and Internet resource at least four times a year. (PI, D) • Strong community partnerships, with consistent commitments to the 21st CCLC Afterschool Program, have been established with local businesses and/or organizations to support programs. (PI, D) • Processes and procedures are in place to ensure a safe and secure facility. (PI)	• The school's 21st CCLC/Afterschool Program is working toward more balance between academic, social, leisure recreation, and life-skills choices. (PI, D) • Limited materials, supplies, resources (including space) and equipment (including technology) restrict program offerings. (PI, S) • The 21st CCLC/Afterschool Program communicates with parents occasionally throughout the year. (PI) • Community partnerships have been established with local businesses and/or organizations to support certain programs during the school year, but not on a consistent basis. (PI, D)	Insufficient evidence to support a conclusion of partial implementation.

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21st Century Community Learning Center

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Instructional Practices **Score:**	**Everything in Proficient plus:** • Teachers/staff plan and coordinate 21st CCLC/Afterschool Program learning activities with students' classroom teachers and curriculum. (PI, S) • Teachers/staff utilize the Missouri AfterSchool Network's standards to improve program quality. (PI, S)	**At least 80% of:** • Teachers/staff link 21st CCLC/Afterschool Program learning activities to students' classroom curriculum. (PI) • Teachers/staff engage students in a several types of learning activities. (PI,S) • Teachers/staff link 21st CCLC/Afterschool Program goals and objectives with the Show-Me Standards.(PI, S)	• 21st CCLC/Afterschool Program staff develop learning activities independent of students' classroom curriculum. (PI, S) • Teachers/staff engage in a few learning activities. (PI)	Insufficient evidence to support a conclusion of partial implementation.
Professional Development **Score:**	**Everything in Proficient plus:** • The staff has expanded their required training related to scope and goals of their program by self-initiating/engaging in additional professional development opportunities. (PI, D)	• The staff participated in the required training related to scope and goals of their program. (PI, D) • Staff engaged in the training and technical assistance available through Missouri AfterSchool Network (MASN). (PI, D, S)	• Some staff members have attended the required training related to scope and goals of their 21st CCLC/Afterschool Program. (PI, D, S)	Insufficient evidence to support a conclusion of partial implementation.

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21st Century Community Learning Center

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Leadership Practices **Score:**	**Everything in Proficient plus:** • Leadership supports full integration of the 21st CCLC/Afterschool Program with "day school" curriculum, and includes staff members in all faculty meetings and professional development. (PI, D, S) • Leadership consistently collects and analyzes data from afterschool and district academic programs to make adjustments in instruction in both settings. (PI)	• Leadership has mechanisms in place to assist the 21st CCLC/Afterschool Program reach targeted participation levels in core educational services. (PI, D) • Leadership has helped 21st CCLC/Afterschool Program reach targeted participation levels in enrichment and support activities. (PI, D) • Leadership's efforts help support 21st CCLC/Afterschool Program to retain participating students. (PI) • Leadership collects and analyzes data, including surveys and evaluations to make adjustments to afterschool program. (PI)	• Leadership has helped the 21st CCLC Afterschool Program reach targeted participation levels in core educational services. (PI, D) • Leadership's efforts help support 21st CCLC/Afterschool Program to retain participating students. (PI) • Leadership collects some data from afterschool program and makes periodic adjustments to afterschool program. (PI)	Insufficient evidence to support a conclusion of partial implementation.

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After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

In order to achieve a deep implementation score, all criteria in levels 3 and 4 must be met. In order to achieve proficient implementation, ALL criteria under proficient must be attained. To obtain partial implementation, all criteria must be met. Criteria may be the same or similar to proficient criteria but fewer in number. Criteria met are indicated by bold, italicized print.

Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Audit

Initiative: Administrator Mentoring Program (AMP)

Description: This is a state-wide mentoring program provided for administrators to comply with an April 2005 certification rule that requires administrators receive two years of mentoring. The Administrator Mentor Program (AMP) is coordinated by the Leadership Academy at the state department of education. The core components include mentors, coordinators and online resources that support the application of leadership behaviors of new school leaders.

There are 37 specific leadership behaviors organized into nine dimensions. Mentors and resources support new leaders' growth in these behaviors. Administrators and mentors utilize the Leadership Performance Planning Worksheet (LPPW) created by the New York City Leadership Academy and access online resources to guide leader growth.

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Aministrator Mentoring Program

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • Contacts with mentor include at least two onsite visits during the year. (PI, D, S)	• Access to online resources is easily accessible and well organized to optimize navigation time. (PI, S) • Assigned mentor is professional and has adhered to monthly contacts to meet 10 hours of required mentoring. (D)	• Access to online resources is easy to access but not well organized, adding on to navigation time. (PI) • Assigned mentor is professional but has not met monthly hourly contacts. (D)	Insufficient evidence to support a conclusion of partial implementation.
Instructional Practices **Score:**	**Everything in Proficient plus:** • Mentor adjusts next steps based on administrator feedback, performance, and reflection. (PI)	• Mentor conducted a needs assessment in order to develop an action plan for mentoring the administrator. (PI, D) • Mentor collaboratively developed the Leadership Performance Planning Worksheet with administrator. (PI, S)	• Mentor collaboratively developed the Leadership Performance Planning Worksheet with administrator. (PI)	Insufficient evidence to support a conclusion of partial implementation.

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Aministrator Mentoring Program

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development **Score:**	**Everything in Proficient plus:** • Administrator has a mechanism in place to reflect on leadership behaviors learned from mentor and other professional development opportunities. (PI) • Administrator has received follow-up support after professional development to help move knowledge into practice. (PI) • Administrator has completed at least four of the eight AMP modules pertinent to administrators. (PI)	• The Leadership Performance Planning Worksheet guided professional development. (PI, S) • Attended at least two professional development seminars related to the Leadership Performance Planning Worksheet. (PI) • Administrator accessed and completed at least three AMP modules during 2008-09. (PI)	• The Leadership Performance Planning Worksheet guided professional development. (PI, S) • Administrator accessed and completed less than three AMP modules during 2008-09. (PI)	Insufficient evidence to support a conclusion of partial implementation.
Leadership Practices **Score:**	**Everything in Proficient plus:** • Administrator pro-actively seeks feedback from staff on leadership behaviors. (PI, S)	• Knowledge and skills learned from mentor, online resources and AMP have been put into practice. (PI, S)	• Knowledge and skills learned from mentor, online resources and AMP have been put into practice on a limited basis, if at all. (PI, S)	Insufficient evidence to support a conclusion of partial implementation.

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Aministrator Mentoring Program

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

In order to achieve a deep implementation score, all criteria in levels 3 and 4 must be met. In order to achieve proficient implementation, ALL criteria under proficient must be attained. To obtain partial implementation, all criteria must be met. Criteria may be the same or similar to proficient criteria but fewer in number. Criteria met are indicated by bold, italicized print.

Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Audit

Initiative: Career and Technical Student Organizations (CTSOs)

Description: Career and Technical Student Organizations (CTSOs) provide additional opportunities for students to develop and refine the skills required in their chosen occupational area through competitive event programs, community and school activities, student conferences and workshops. The Division of Career Education supports the following CTSOs: DECA, Delta Epsilon Chi, Future Business Leaders of America (FBLA), FFA, Family, Career and Community Leaders of America (FCCLA), Health Occupations Students of America (HOSA), Postsecondary Agricultural Student Organization (PAS), Phi Beta Lambda (PBL), SkillsUSA, Technology Student Association (TSA), and Young Farmer Educational Association.

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Career and Technical Student Organizations

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • CTSOs actively encourage students to participate in their respective CTSO through demonstrations, competitions, and communications. (PI, S)	• All students who are taking or have taken a career education course have access to participate in CTSOs. (PI, D) • The necessary materials, supplies and equipment to offer a CTSO are available. (PI, S)	• All students who are taking or have taken a career education course have access to participate in CTSOs (PI, D). • There are materials, supplies, and equipment needs in order to offer the CTSO. (PI, S)	Insufficient evidence to support a conclusion of partial implementation.
Instructional Practices **Score:**	**Everything in Proficient plus:** • Teacher CTSO advisors, with student collaboration, display CTSO successes, projects and services. (PI)	• Teacher CTSO advisors collaboratively develop with students CSTO learning activities that integrate and support the career education curriculum goals. (PI, D) • Teacher CTSO advisors incorporate problem-based learning into activities. (PI, D) • Teacher CTSO advisors facilitate student participation in community service and service learning opportunities. (PI, D, S) • Students work collaboratively on learning activities. (PI, S)	• Teachers develop CTSO learning experiences that align with career education curriculum goals. (PI, S) • Students work collaboratively on learning activities. (PI, S)	

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Career and Technical Student Organizations

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development **Score:**	**Everything in Proficient plus:** • Teacher CTSO advisor has attended the MoACTE summer conference once over the past three years. (PI, D)	• Teacher CTSO advisors have received advice or training that is offered at regional/district, state and national levels. (PI, D) • Teacher CTSO advisors have established CTSO goals in their professional development plan. (PI, D) • Teachers CTSO advisors collaborate on school-wide projects. (PI)	• Teacher CTSO advisors have received advice or training that is offered at regional/district, state and national levels. (PI, D)	Insufficient evidence to support a conclusion of partial implementation.
Leadership Practices **Score:**	**Everything in Proficient plus:** • Building administrators provide CTSO recognition throughout the year that is comparable to academic and athletic recognitions. (PI, S)	• Building and district administrators allocate adequate funds equitably (fair and appropriate) between building/district CTSOs for materials, supplies and equipment. (PI, D, S) • Building and district administrators have collaboratively developed, with CTSO advisors, policies to promote participation in CTSOs. (PI, D) • Building and district administrators allocate adequate funds for CTSOs to participate in leadership and competitive events. (PI, D)	• Building and district administrators allocate adequate funds equitably (fair and appropriate) between building/district CTSOs for materials, supplies. (PI, D, S) • Building and district administrators have collaboratively developed, with CTSO advisors, policies to promote participation in CTSOs. (PI, D)	

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Career and Technical Student Organizations

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

In order to achieve a deep implementation score, all criteria in levels 3 and 4 must be met. In order to achieve proficient implementation, ALL criteria under proficient must be attained. To obtain partial implementation, all criteria must be met. Criteria may be the same or similar to proficient criteria but fewer in number. Criteria met are indicated by bold, italicized print.

Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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The Missouri Department of Elementary and Secondary Education
Implementation Audit

Initiative: enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS)

Description: eMINTS offers intensive two-year professional development programs for pre-K-16 educators, helping meet the demand for teaching and learning that challenges and stimulates students as they use technology tools to acquire knowledge and skills for the 21st century. The eMINTS instructional model provides a research-based approach to organizing instruction that enables teachers to create classrooms where all students are motivated to succeed socially and academically; fully incorporate technology investments into teaching and learning; complement existing curriculum with critical-thinking requirements found in national, state, and local curriculum standards; and build enthusiasm and creativity into daily teaching.

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After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • Barriers have been removed to allow new eMINTS teachers to complete peer observations of master teachers. (PI)	• All teachers implementing eMINTS have the required classroom equipment. (PI, S) • Student projects and work are displayed throughout the building. (PI)	• All teachers implementing eMINTS have the required classroom equipment. (PI)	Insufficient evidence to support a conclusion of partial implementation
Instructional Practices **Score:**	**Everything in Proficient plus:** • Teachers have students work in cooperative learning structures to complete learning experiences/assignments. (PI, S) • Teachers engage students in developing inquiry-based learning activities. (S)	**At least 80% of:** • Teachers have collaboratively developed with students classroom behavior norms. (PI, S) • Teachers incorporate a wide range of technology into daily teaching and learning. (PI, S) • Teachers incorporate authentic, real-world, project-based learning experiences/assignments. (PI, S) • Teachers consistently use effective questioning techniques daily. (PI, S) • Teachers and students develop rubrics for learning experiences. (S) • Teachers utilize eThemes to support classroom instruction. (PI)	• Teachers utilize eThemes to support classroom instruction. (PI) • Teachers have collaboratively developed with students classroom behavior norms. (PI) • Teachers are beginning to use technology for teaching and learning. (PI) • Teachers use effective questioning techniques, but not consistently. (PI) • Teachers and students develop rubrics for inquiry-based learning experiences and assessments. (S)	Insufficient evidence to support a conclusion of partial implementation

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Leadership Practices **Score:**	**Everything in Proficient plus:** • Leadership (building and district) collects and analyzes data to monitor implementation effectiveness, and there is documented evidence that adjustments are made when necessary. (PI, D) • Leadership participates in online discussion lists, Moodle courses, and/or maintains weekly direct contact with eMINTS National Center via email or telephone during grant implementation and every quarter thereafter. (PI)	• Leadership collaboratively creates a professional development delivery plan with teachers. (D) • Leadership provides multiple opportunities for teacher collaboration. (PI) • Building leadership completes onsite walkthroughs using "look fors" based on the Hallmarks of an Effective eMINTS classroom. (PI, D, S)	• Leadership collaboratively creates a professional development delivery plan with teachers. (D) • Building leadership completes onsite walkthroughs using "look fors" based on the Hallmarks of an Effective eMINTS classroom. (PI, D, S)	Insufficient evidence to support a conclusion of partial implementation

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Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Audit

Initiative: High Schools That Work

Description: High Schools That Work (HSTW) is an effort-based, data-driven school improvement initiative founded on the conviction that most students can master rigorous academic and career/technical studies if school leaders and teachers create an environment that advocates high expectations for all students, and with the motivation and support mechanisms that will help them succeed at a higher level with hard work. The core components of High Schools That Work as stated on the Southern Education Regional Board website (www.sreb.org) are its 10 key practices:

- **High expectations**: Motivate more students to meet higher standards by integrating high expectations into classroom practices and providing frequent feedback.
- **Program of study**: Require each student to complete an upgraded academic core and a concentration.
- **Academic studies**: Teach more students the essential concepts of the college-preparatory curriculum by encouraging them to apply academic content and skills to real-world problems and projects.
- **Career/technical studies**: Provide more students access to intellectually challenging career/technical studies in high-demand fields that emphasize the higher-level academic and problem-solving skills needed in the workplace and in further education.
- **Work-based learning**: Enable students and their parents to choose from programs that integrate challenging high school studies and work-based learning and that are planned by educators, employers and students.
- **Teachers working together**: Provide cross-disciplinary teams of teachers with time and support to work together to help students succeed in challenging academic and career/technical studies.
- **Students actively engaged**: Engage students in academic and career/technical classrooms in rigorous and challenging proficient-level assignments using research-based instructional strategies and technology.
- **Guidance**: Involve students and their parents in a guidance and advisement system that develops positive relationships and ensures completion of an accelerated program of study with an academic or career/technical concentration.
- **Extra help**: Provide a structured system of extra help to assist students in completing accelerated programs of study with high-level academic and technical content.
- **Culture of continuous improvement**: Use data continually to improve school culture, organization, management, curriculum and instruction to advance student learning.

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • More than 80% of students are engaged in the recommended Academic Core classes and career concentration. (PI)	• At least 80% of students are engaged in the recommended Academic Core classes and career or academic concentration. (PI) • Academic Core and career courses are offered to all students. (PI, D) • Interdisciplinary teams are formed to assist with continuous improvement. (PI) • Building Improvement Plan incorporates High Schools That Work Improvement Plan. (D)	• The percentage of students engaged in the recommended Academic Core classes has increased by 10-15% per year; however, it remains less than 80%. (PI, D) • Academic Core and career courses are offered to all students. (D) • Low-level Academic Core and career classes have been eliminated, or significant progress toward this end has been achieved. (PI, D)	Insufficient evidence to support a conclusion of partial implementation.

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Instructional Practices **Score:**	**Everything in Proficient plus:** • Teachers implement short, reflective writing assignments, weekly. (PI) • Teachers and students effectively incorporate the use of technology into the instructional/learning process. (PI) • Teachers use literacy instructional strategies at least once a week across the curriculum. (PI, S) • Teachers post student exemplars for "A" and "B" assignments with the accompanying rubric. (PI, S) • 75% of career and technical teachers and 50% of core- content teachers who teach senior students incorporate rigorous learning experiences including research projects, debates, a variety of essays, and experiments to defend performance-based projects in all content areas. (PI, S)	**At least 80% of:** • Teachers have established and communicated high expectations to students. (PI) • Teachers incorporate daily open-ended, and higher-order questioning. (PI, S) • Teachers have students orally defend a process used to solve a problem. (PI) • Teachers allow students to resubmit work that does not meet the standard at least once. (S) • Daily bell ringers focus on literacy/numeracy or writing skills. (PI, S) • Teachers assign a project-based homework assignment once a week. (PI, D) • Teachers use rubrics to provide feedback so students can improve their work. (PI, S) • Career and technical courses embed literacy and mathematics at least once a week into instruction. (PI) • Teachers utilize cooperative learning structures at least once a week during instruction and for students to complete learning tasks/assignments. (S)	• Teachers have established and communicated high expectations to students. (PI) • Teachers provide frequent feedback to students. (S) • Teachers utilize cooperative learning structures for students to complete learning tasks/assignments. (S) • Teachers assign daily homework. (PI, D) • Daily bell ringers focus on literacy/numeracy or writing skills. (PI)	Insufficient evidence to support a conclusion of partial implementation.

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development **Score:**	**Everything in Proficient plus:** • In most years, at least three staff members have attended the conference for HSTW offered by SREB and the Missouri Building Bridges Conference on an annual basis. (PI) • The school has participated, or is scheduled to participate this year, in DOE and/or SREB-sponsored webinars, and/or other HSTW-related professional development offerings within the past two years. (PI) • Teachers work collaboratively and cooperatively with cross-curricular lessons and assignments that allow students to earn a grade in multiple classes. (D, PI) • Professional development is sustained over time with follow-up support. (PI, S)	• At least 80% of high school staff has participated in the HSTW benchmarking process to expand plans from the Site Development Workshop, into a multiple-year rollout plan to meet initiative goals. (PI, D) • For sites that are receiving their first HSTW Assessment report, a team composed of at least one administrator and one teacher leader attended professional development offered by DOE on the effective use of HSTW Assessment. (PI) • Teachers work collaboratively and cooperatively to develop common assessments, including end-of-course exams, cross-curricular lessons and assignments. (PI) • Teachers use data from common assessments to make instructional decisions. (S) • Professional development is targeted on content and strategies for students to achieve national standards in content fields. (PI)	• A team composed of school leadership, faculty and staff attended the two-day Site Development Workshop presented by the Southern Regional Education Board. (PI, D) • Teachers have started to work collaboratively and cooperatively to develop common assessments, including end-of- course exams, cross-curricular lessons and assignments. (PI)	Insufficient evidence to support a conclusion of partial implementation

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Leadership Practices **Score:**	**Everything in Proficient plus:** • Leadership has created an improvement plan that specifies goals, actions, timelines and responsibilities. (D) • Building and district leadership involves the staff in collecting and analyzing data to monitor implementation effectiveness, and there is documented evidence that adjustments are made when necessary (PI, D, S) • Teacher advisors contact advisees' parents and include them in the development of the annual plan for study and discuss student readiness and achievement gaps. (PI, D) • Building and district administrators have expanded teacher leadership by having teacher leaders on a series of teams focused on successful and ongoing school improvement. (PI)	• At least 80% of the teachers are involved in the building-wide advisement program that supports students in attaining higher academic expectations. (PI) • Leadership provides multiple opportunities for teacher collaboration. (PI, S) • Leadership has developed a uniform homework-policy governing amount, depth of knowledge, and timeliness. (PI, D) • Leadership has developed uniform policies for literacy and numeracy standards. (PI, D)	• An advisement program has been established building-wide to support students in attaining higher academic expectations. (PI) • Leadership provides multiple opportunities for teacher collaboration. (PI) • Leadership has developed a uniform homework-policy governing amount, depth of knowledge, and timeliness. (PI, D)	Insufficient evidence to support a conclusion of partial implementation

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Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Audit

Initiative: Making Middle Grades Work (MMGW)

Description: Similar to High Schools That Work, Making Middle Grades Work (MMGW) has ten key practices, which reflect an effort-based model of school reform centered on students being able to enter high school prepared to take college preparatory curriculum successfully. The ten key practices for Making Middle Grades Work as stated on the Southern Regional Education Board (www.sreb.org) are—

- **An academic core aligned to what students must know, understand and be able to do to succeed in college-preparatory English, mathematics, science and social studies courses in high school**: Provide all middle-grade students with access to an academic core curriculum that accelerates learning, is challenging, and appeals to their interests.
- **A belief that all students matter**: Connect each student's needs to an adult who takes an interest in his or her successful learning, goal setting, course selection, educational planning, progress, and personal growth. Create a guidance and advisement system that ensures more students complete an accelerated program of study.
- **High expectations and a system of extra help and time**: Invest time and provide the extra help students need to attain at least grade-level standards.
- **Classroom practices that engage all students**: Link challenging academic content to real-world applications and integrate into all courses reading, writing, and speaking as strategies for learning to engage students in all areas of the curriculum.
- **Teachers working together**: Establish cross-disciplinary teams of teachers and provide them with time and support to work together to help students succeed in challenging academic and related arts studies.
- **Support from parents**: Ensure parents clearly understand and support higher standards for performance in the middle grades. Educate middle-grade students and parents about the achievement level needed to prepare students for challenging high school studies.
- **Qualified teachers**: Provide middle-grade teachers with the professional support they need to become highly qualified teachers who know academic content and understand how to teach middle-grade students effectively.
- **Use of data**: Use data on student and school performance to review and revise school and classroom practices. Collect and analyze state, end-of-course and end-of-year assessments, and other forms of data to guide important school and classroom improvement decisions.

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- **Use of technology for learning**: Support teachers to plan units of instruction that allow students to conduct research, write papers, communicate globally, prepare presentations using electronic tools and resources, and explore the use of technology to address an array of contemporary problems.
- **Strong leadership**: At the district level, purposefully select, develop, and support middle-grade principals to become effective instructional leaders who can take an active role in aligning and benchmarking curricula to high school standards and providing high-quality professional development. Support each school to establish a leadership team consisting of the principal, assistant principal, and teacher leaders to lead focus teams and share in instructional decision-making.

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • More than 80% of students are engaged in the recommended Academic Core classes. (PI) • Advisors have 8th-grade students develop a five-year educational plan in collaboration with families. (PI, D)	• At least 80% of students are engaged in the recommended Academic Core classes. (PI) • Academic Core and career courses are offered to all students. (D) • An advisement program has been established building-wide to support students in attaining higher academic expectations. (PI) • Interdisciplinary teams, which minimally include faculty from the partner HSTW site on a consulting basis, are formed to assist with continuous improvement. (PI) • Building improvement plan incorporates Making Middle Grades improvement plan.(D)	• The percentage of students engaged in the recommended Academic Core classes has increased by 10-15% per year; however it remains less than 80%. (PI, D) • Academic Core and career courses are offered to all students. (D) • Low-level Academic Core and career classes have been eliminated, or significant progress toward this end has been achieved. (PI, D)	Insufficient evidence to support a conclusion of partial implementation

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Instructional Practices **Score:**	**Everything in Proficient plus:** • Teachers engage students in weekly content-area reading and short reflective writing prompts. (PI, S) • Student exemplars for "A" and "B" assignments are posted with the accompanying rubric. (PI) • Teachers use a variety of authentic assessment practices including performance assessments, portfolios, projects and open-ended response questions. (S) • Teachers and students effectively incorporate the use of technology into the instructional/learning process. (PI, S) • Teachers use literacy instructional strategies (content-area reading and writing) at least once a week across the curriculum. (PI, S)	**At least 80% of:** • Teachers have established and communicated high expectations to students. (PI, S) • Teachers write the daily objective on black/white board. (PI, S) • Daily bell ringers focus on literacy/numeracy or writing skills. (PI, S) • Teachers have students orally defend a process used to solve a problem. (PI) • Teachers allow students to resubmit work at least once in order to meet the standards. (S) • Teachers assign project-based homework at least once a week. (PI, S) • Teachers use rubrics to provide feedback. (PI, S) • Teachers provide instruction on note taking and engage students weekly in taking notes. (PI, S) • Teachers utilize cooperative learning structures weekly for students to complete learning tasks/assignments. (PI, S)	• Teachers have established and communicated high expectations to students. (PI) • Teachers occassionally have bell ringers that focus on literacy/numeracy or writing skills. (PI) • Teachers use rubrics to provide students feedback. (PI) • Teachers engage students in content-area reading and writing weekly. (PI, S) • Teachers assign project-based homework. (PI, D) • Teachers utilize cooperative learning structures for students to complete learning tasks/assignments. (S)	Insufficient evidence to support a conclusion of partial implementation

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development **Score:**	**Everything in Proficient plus:** • In most years, at least three staff members have attended on an annual basis the conference for MMGW offered by SREB and the Missouri Building Bridges Conference. (PI) • The school has participated in SREB-sponsored webinars, and/or other MMGW-related professional development offerings within the past two years or is scheduled to participate this year. (PI) • Teachers work vertically with same-content faculty at the partner HSTW site to ensure that professional development results in a higher percentage of 8th graders entering the freshman year prepared to take rigorous classes successfully. (D, PI) • Professional development is sustained over time with follow-up support. (PI)	• At least 80% of middle-school staff attended the two-day Site Development Workshop presented by the Southern Regional Education Board. (PI, D) • For sites that are receiving their first MMGW Assessment report, a team composed of at least one administrator and one teacher leader attended professional development offered by DESE on the effective use of the MMGW Assessment. (PI) • Professional development is targeted on content and strategies for students to achieve national standards in content fields. (PI) • Teachers work collaboratively and cooperatively to develop common assessments and cross-curricular lessons and assignments. (PI) • Teachers use data from common assessments to make instructional decisions. (S)	• A team composed of middle school leadership, faculty and staff, along with representation from the partner HSTW site attended the two-day Site Development Workshop presented by the Southern Regional Education Board. (PI, D) • Teachers have started to work collaboratively and cooperatively to develop common assessments, including end-of- course exams, and cross-curricular lessons and assignments. (PI)	Insufficient evidence to support a conclusion of partial implementation

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Leadership Practices **Score:**	**Everything in Proficient plus:** • Leadership has created an implementation plan that includes specifies goals, actions, timelines and responsibilities. (D) • Building and district leadership involves the staff in collecting and analyzing data to monitor implementation effectiveness, and there is documented evidence that adjustments are made when necessary. (PI, D) • Leadership has created a mechanism to ensure content core courses are taught to high standards. (PI, D)	• Leadership provides multiple opportunities for teacher collaboration. (PI) • Leadership has developed a uniform homework-policy governing amount, depth of knowledge, and timeliness. (PI, D) • Leadership has collaboratively developed uniform policies for literacy and numeracy standards. (PI, D) • Leadership has collaboratively developed policies and practices for students to successfully transition to 9th grade and graduate within four years. (PI)	• An advisement program has been established building-wide to support students in attaining higher academic expectations. (PI) • Leadership provides multiple opportunities for teacher collaboration. (PI) • Leadership has developed a uniform homework-policy governing amount, depth of knowledge, and timeliness. (PI, D)	Insufficient evidence to support a conclusion of partial implementation

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Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Audit

Initiative: Math-Science Partnership (MSP)

Description: This program is designed to improve the content knowledge of teachers and the performance of students in the areas of math and science by encouraging states, institutions of higher education (IHEs), local education agencies (LEAs), and elementary and secondary schools to participate in programs that—

1. Improve and upgrade the status and stature of mathematics and science teaching by encouraging IHE's to improve mathematics and science teacher education.
2. Focus on the education of mathematics and science teachers as a career-long process.
3. Bring mathematics and science teachers together with scientists, mathematicians, and engineers to improve their teaching skills.
4. Provide summer institutes and ongoing professional development for teachers to improve their knowledge and teaching skills.

The program supports projects to improve math and science education through partnerships, which include, at a minimum, a high-need LEA and the mathematics, science, or engineering department of an IHE.

The Mathematics and Science Partnership (MSP) program is intended to increase the academic achievement of students in mathematics and science by enhancing the content knowledge and teaching skills of classroom teachers. Partnerships between high-need school districts and the science, technology, engineering, and mathematics (STEM) faculty in institutions of higher education are at the core of these improvement efforts. Other partners may include state education agencies, public charter schools or other public schools, businesses, and nonprofit or for-profit organizations concerned with mathematics and science education.

The Math and Science Partnerships program is a formula grant program to the states, with the size of individual state awards based on student population and poverty rates. No state receives less than one-half of one percent of the total appropriation. With these funds, each state is responsible for administering a competitive grant competition, in which grants are made to partnerships to improve teacher knowledge in mathematics and science.

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Math-Science Partnership

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • Barriers have been removed to allow math and science teachers participating in the partnership to complete peer observations of master teachers. (PI)	• Grant funds were allocated only for authorized activities. (PI, D) • Math and science teachers participating in the partnership have all the necessary supplies, materials, resources and equipment, including technology, to teach their courses effectively. (PI, S)	• Grant funds were allocated only for authorized activities. (PI, D) • Math and science teachers participating in the partnership have some supplies, materials and equipment, including technology, to teach their courses sufficiently, but they are not optimal. (PI, S)	Insufficient evidence to support a conclusion of partial implementation.
Instructional Practices **Score:**	**Everything in Proficient plus:** • Math and science teachers participating in the partnership have students respond to nonfiction writing prompts weekly. (S) • Math and science teachers participating in the partnership have students complete a daily bell ringer reinforcing subject- area knowledge, concepts and skills. (PI)	**At least 80% of:** • Math and science teachers participating in the partnership integrate a wide variety of technology into teaching and learning on a weekly basis. (PI, S) • Math and science teachers participating in the partnership use a variety of effective instructional strategies. (PI, S) • Math and science teachers participating in the partnership use formative assessments to adjust instruction to meet the needs of students. (PI, S) • Math and science teachers participating in the partnership provide direct vocabulary instruction and practice. (S)	• Math and science teachers participating in the partnership are beginning to integrate technology into teaching on an occasional basis. (PI, S) • Math and science teachers participating in the partnership try out new instructional strategies for their content areas. (PI) • Math and science teachers rely on summative assessments to determine student progress. (PI, S)	

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Math-Science Partnership

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development **Score:**	**Everything in Proficient plus:** • Math and science teachers participating in the partnership receive follow-up professional development in the form of coaching on how to implement content and/or effective instructional strategies from either the professional development provider or partnering institution of higher education. (PI, S) • Math and science teachers participating in the partnership have an opportunity to reflect on professional development with administration and/or colleagues from partnering institutions of higher education. (PI)	• All math and science teachers participating in the partnership collaborate at least twice a month with subject-area colleagues on teaching and learning. (PI) • All math and science teachers participating in the partnership have attended content-specific professional development at least twice each year. (PI, S) • All math and science teachers participating in the partnership have attended professional development on effective instructional strategies targeting their content areas. (PI, S) • All math and science teachers participating in the partnership collaborate with scientists, mathematicians and/or engineers focusing on improving knowledge and teaching skills at least quarterly. (PI) • All math and science teachers participating in the partnership attend the summer institutes. (PI)	• Math and science teachers collaborate monthly with subject-area colleagues on teaching and learning. (PI) • Math and science teachers have attended content specific professional development at least once during the year. (PI, S) • All math and science teachers attend the summer institutes. (PI)	Insufficient evidence to support a conclusion of partial implementation.

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Math-Science Partnership

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Leadership Practices **Score:**	**Everything in Proficient plus:** • Leadership meets quarterly with math and science teachers participating in the partnership to encourage reflection of strengths and areas of growth. (PI)	• Leadership provides multiple opportunities for math and science teachers participating in the partnership to collaborate with each other. (PI) • Leadership removes barriers to allow for math and science teachers participating in the partnership to collaborate with scientists, mathematicians and/or engineers. (PI) • Leadership conducts classroom walkthroughs to support math and science teacher implementation of knowledge and teaching skills. (PI, D)	• Leadership provides opportunities for teacher collaboration for math and science teachers with each other.(PI) • Leadership conducts classroom walkthroughs to support math and science teacher implementation of knowledge and teaching skills. (PI, D)	Insufficient evidence to support a conclusion of partial implementation

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Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Rubric

Initiative: Missouri Integrated Model (MIM)

Description: The Missouri Integrated Model (MIM) is a framework that pulls together evidence-based components and processes. MIM includes—

- Tiered levels of support,
- Essential features of effective schools, &
- Effective implementation processes

Central in the Missouri Integrated Model framework is a focus on supporting academic achievement and successful behavior through tiered levels of support that acknowledge and address diversity in student learning. A framework for supporting this focus are the 11 essential features of the model. These features represent the evidence-based practices and qualities congruent with effective schools, responsive intervention, and successful system-change efforts. Collectively, the tiered levels of support and the essential features are integrated within the context of schools, districts, and the state to form the Missouri Integrated Model.

Specifically, the essential features of the Missouri Integrated Model facilitate work in three categories: (a) building and sustaining capacity for responding to student instructional and behavioral needs, (b) maximizing resources, and (c) making informed decisions. Within the three categories, the 11 essential features are:

Build and sustain capacity for responding to student needs	Maximize resources needed for innovation	Make informed decisions
• Shared vision and commitment • Leadership at state, district, and building levels • Collaborative environment • Ongoing professional development • Educator support through mentoring and coaching • Culturally responsive practices	• Resource mapping • Family and community involvement	• Evidence-based practices • Data-based decision making • Progress monitoring

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • More than 80% of staff are committed to the MIM framework. (PI) • A comprehensive data collection system, which includes effect and cause data, has been established in order to systematically collect data and analyze results to make prevention and intervention decisions. (PI, D) • A communications system with all stakeholders (staff, parents, community members and organization) has been established, and MIM monthly communications are produced in at least two languages based on community needs. (PI, D)	• Building and District Leadership Teams have been formed with all representation as stated in MIM Implementation Blueprint. (PI) • A shared vision that has been collaboratively developed, is visible across the school/district. (PI, D, S) • District Leadership Team is supportive and responsive to Building Leadership Team(s). (PI, D) • 80% of staff are committed to the MIM framework. (PI, S) • Universal screening for academics and behaviors are in place for all students and occur at least three times a year. (PI, D) • A data collections system focusing only on effect data (student achievement, behaviors, attendance, etc.) has been established and is used to analyze results and make intervention decisions. (PI, D) • A communications system with all stakeholders (staff, parents, community members and organization) has been established, and MIM monthly communications are produced. (PI, D)	• Building and District Leadership Teams have been formed. One or two representatives, as stated in MIM Implementation Blueprint, are not present on the teams. (PI, D) • A shared vision that has been collaboratively developed, is visible across the school/district. (PI, D) • District Leadership Team is supportive and responsive to Building Leadership Team(s). (PI, D) • Less than 80% of staff are committed to the MIM framework. (PI, D) • Universal screening assessments for academics and behaviors have been identified and are administered annually. (PI, D)	Insufficient evidence to support a conclusion of partial implementation.

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After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Instructional Practices **Score:**	**Everything in Proficient plus:** • Teachers use formative assessments at least weekly to obtain progress-monitoring data on students. (PI, S) • Teachers use a variety of authentic assessment practices including performance assessments, portfolios, projects and open-ended response questions at least monthly. (PI, S) • Teachers provide learner-centered differentiated instruction taking into consideration cultural differences. (PI, D)	**At least 80%of:** • Staff are implementing three tiers of instructional and behavioral practices. (PI, S) • Teachers have established and communicated high expectations to students. (PI, S) • Teachers utilize formative assessments at least once every two weeks to obtain progress- monitoring data on students. (PI, S) • Teachers meet weekly in problem-solving teams that have an organized structure to make collaborative decisions on essential learning outcomes, instructional strategies, assessments and interventions, etc. (PI, D, S)	**Less than 80% of:** • Staff are implementing three tiers of instructional and behavioral practices. (PI, D, S) • Teachers have established and communicated high expectations to students. (PI, S) • Teachers utilize formative assessments at least once a month to obtain progress-monitoring data on students. (PI, S) • Teachers occasionally meet in problem-solving teams to make collaborative decisions on essential learning outcomes, instructional strategies, assessments and interventions, etc. (PI, D, S)	Insufficient evidence to support a conclusion of partial implementation.

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After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development **Score:**	**Everything in Proficient plus:** • 100% of staff has received MIM framework professional development. (PI, D, S) • 100% of staff has attended all professional development offerings associated with the implementation of MIM. (PI, D) • On-site coaching and/or mentoring are provided as follow-up to professional development to support what was learned into practice. (PI, D, S) • A system to evaluate professional development and its impact on student achievement has been developed. (PI, D) • Coaches/mentors have the opportunity to meet at least once a month to collaborate. (PI, D)	• Professional development plan focuses on collaborating and enhancing professional practice, MIM essential features and tiered levels of academic and behavior support. (D) • Professional development is targeted based on self-study needs assessment. (PI, D, S) • At least 80% of ALL staff has received MIM Framework professional development. (PI, D, S) • At least 80% of staff has attended all professional development offerings associated with the implementation of MIM. (PI, D) • At least 10% of teachers have been identified and have received professional development that allows them to coach/mentor colleagues on MIM components to build professional development capacity. (PI) • Leadership Team attends all state-wide MIM meetings and professional development. (PI, D) • Professional development opportunities are provided to parents to support implementation of MIM. (PI, D)	• Professional development plan focuses on collaborating and enhancing professional practice, MIM essential features and tiered levels of academic and behavior support. (PI, D) • Professional development is targeted based on self-study needs assessment. (PI, D, S) • Less than 80% of ALL staff has received MIM Framework professional development. (PI, D, S) • Less than 80% of staff has attended all professional development offerings associated with the implementation of MIM. (PI, D) • Teachers have been identified to receive professional development in MIM components in order to coach/mentor colleagues. (PI, D) • Leadership Team attends all state-wide MIM meetings and professional development. (PI, D)	Insufficient evidence to support a conclusion of partial implementation.

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**

Leadership Practices
 	
Score:
	Everything in Proficient plus:
	• Leadership Team has organized, documented evidence of transformation process including planning, policies and decisions made. (PI, D)
	• Leadership has a formal problem-solving process that uses data to make decisions on academics, behavior, professional development and distribution of resources. (PI, D)
	• Leadership developed a plan for realignment of resources and acquiring resources to implement MIM. (PI, D)
	• Leadership Team meets weekly with Implementation Facilitator. (PI, D)
		• Leadership Team has developed an action plan that addresses data analysis and collaborative problem-solving in the following ways:
		  • Uses data to make decisions
		  • Identifies and remedies gaps in data sources
		  • Uses data to identify professional development and resources. (PI, D)
		• Leadership maps resources to identify gaps and overlaps. (PI, D)
		• Leadership provides multiple opportunities for teachers to collaborate in problem-sovling teams. (PI, D, S)
		• Leadership communicates data results, including patterns and trends, to all stakeholders through meetings, newsletters, reports and websites, incorporating charts and graphs. (PI, D)
		• Leadership involves staff on MIM processes and implementation by requesting feedback. (PI, D, S)
		• Leadership Team meets twice a month with Implementation Facilitator. (PI, D)
			• Leadership Team has developed an action plan that addresses data analysis and collaborative problem-solving in the following ways:
			  • Uses data to make decisions
			  • Identifies and remedies gaps in data sources
			  • Uses data to identify professional development and resources. (PI, D)
			• Leadership provides multiple opportunities for teachers to collaborate in problem-solving teams. (PI, D, S)
			• Leadership communicates data results to building staff and incorporates charts and graphs. (PI, D)
			• Leadership involves staff on MIM processes and implementation by requesting feedback. (PI, D, S)
			• Leadership Team meets twice a month with Implementation Facilitator. (PI, D)
				Insufficient evidence to support a conclusion of partial implementation.

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In order to achieve a deep implementation score, all criteria in levels 3 and 4 must be met. In order to achieve proficient implementation, ALL criteria under proficient must be attained. To obtain partial implementation, all criteria must be met. Criteria may be the same or similar to proficient criteria but fewer in number. Criteria met are indicated by bold, italicized print.

Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Audit

Initiative: Missouri Option Program

Description: The Missouri Option Program is designed to target students who are 17 years of age and who have the capabilities to complete Missouri's High School Graduation Requirements, but for a variety of reasons lack the credits needed to graduate with their class and are at risk of leaving school without a high school diploma. Students take the GED Tests to demonstrate academic proficiency, but are issued a regular diploma. There are 175 districts serving 3,000 students statewide. No funds are allocated to local schools for the program.

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Missouri Option Program

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context	**Everything in Proficient plus:** • Students have a four-to-six year plan with targeted actions to meet identified goals (education/career). (PI) • Teachers have high levels of interpersonal involvement with students. (PI, S) • District has specific staff designated to support student needs. (PI, D) • District offers flexible hours for Missouri Option instruction to meet student needs. (PI, D) • Missouri Option Program is aligned with local district curriculum. (PI, D)	• Students have access to all educational programs. (PI) • A classroom(s) has been secured for Missouri Option instruction that is comparable to other classrooms. (PI) • Students are engaged in Missouri Option instruction in school-supervised career education, work, volunteer or service-learning activities. (PI, D) • Students are able to participate in the graduation ceremony with peers. (D, PI) • School and community resources, such as health services, mental health, social services, etc., are used to support student success. (PI, D)	• Students have access to all educational programs. (PI) • A classroom(s) has been secured for Missouri Option instruction that is comparable to other classrooms. (PI) • Students are able to participate in the graduation ceremony with peers. (D, PI) • Students are enrolled in a half-credit course in personal finance and health education. (D, PI)	Insufficient evidence to support a conclusion of partial implementation.

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Instructional Practices	**Everything in Proficient plus:** • Teachers incorporate technology into teaching and learning at least once a week. (PI) • Teachers use pre and post-formative assessments to make instructional decisions to target student needs. (PI, S) • Teachers provide positive behavior support activities to ensure student success. (PI, S)	**At least 80% of:** • Teachers utilize variety of effective instructional strategies. (PI, S) • Teachers embed workforce - development learning experiences in instruction. (PI, S) • Teachers have students use a variety of materials and resources to complete learning experiences and assignments. (PI) • Teachers provide individualized learning experiences and assignments to meet student needs. (PI, S) • Teachers have students who have completed learning experiences/assignments in cooperative learning structures. (PI, S) • Teachers differentiated instruction to meet individual student needs. (PI, S)	• Teachers rely on lecture and worksheets when providing instruction and occasionally use an effective instructional strategy. (PI) • Workforce-development learning experiences are embedded in instruction. (PI, S) • Teachers have students use a variety of materials and resources to complete learning experiences and assignments. (PI)	Insufficient evidence to support a conclusion of partial implementation.

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Missouri Option Program

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development	**Everything in Proficient plus:** • Teachers engage in content- area professional development (science, math, reading or social studies). (S)	• Missouri Option instruction teachers attend required professional development provided by the state. (PI, S) • Missouri Option instruction teachers attend school and district professional development. (PI, S) • Missouri Option instruction teachers have received professional development in differentiated instruction in order to meet individual student needs. (PI, D)	• Missouri Option instruction teachers attend required professional development provided by the state. (PI)	Insufficient evidence to support a conclusion of partial implementation.
Leadership Practices	**Everything in Proficient plus:** • District or building leaders have created opportunities for Missouri Option instruction teachers to collaborate with academic and career/technical education teachers. (PI, S) • District or building program leaders are active in obtaining district and community support for the Option program and for students to stay in school. (PI) • District or building leaders engage Missouri Option parents to support the program through newsletters, emails, open-houses or other means to get parents involved. (PI, D)	• All required paperwork and documentation are completed and submitted on time. (PI) • District or building leaders have visited an established Missouri Option Program to observe best practices. (PI) • District or building leaders have established a mechanism or system to identify students for the Missouri Option Program. (PI) • District or building leaders uses data to make midcourse adjustments to the program. (PI)	• All required paperwork and documentation are completed and submitted on time. (PI) • District or building leaders have visited an established Missouri Option Program to observe best practices. (PI) • District or building leaders have established a mechanism or system to identify students for the Missouri Option Program. (PI)	

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Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Audit

Initiative: Missouri Virtual Instructional Program (MoVIP)

Description: MoVIP is an alternative instructional delivery method. Students receive education instruction online. MoVIP provides online education to students with the following needs:

- Students wanting advance classes that may not be available in their school (AP, trigonometry etc.)
- Students who are medically fragile and are unable to attend school.
- Students who cannot take a course because of a shortage of certified teachers, typically in rural areas.
- Students with scheduling conflicts.
- Students with credit recovery needs.
- Students with special needs (autism, asberger, etc.).
- Students who are at risk or have dropped out of school.
- Students who are unable to receive gifted instruction in their home school.
- Students who are currently outside the state.

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Missouri Virtual Instructional Program

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • Counselors and/or building leaders have communicated information to students and parents on MoVIP through a variety of modes. (PI, D)	• Counselors and/or building leaders have received in-depth information on MoVIP so it can be communicated to students, staff and parents. (PI, S) • www.MoVIP.org is easy to navigate and provides all pertinent information regarding available courses, cost and how to register. (PI)	• Counselors and/or building leaders have received information on MoVIP so it can be communicated to students, staff and parents. (PI, S)	Insufficient evidence to support a conclusion of partial implementation.
Instructional Practices **Score:**	**Everything in Proficient plus:** • MoVIP instructors communicate with districts on student progress for dually enrolled students. (PI)	• District MoVIP site facilitators/counselors access DOE's web applications to obtain information from MoVIP's student information system twice a month. (PI, S) • District MoVIP site facilitators/counselors communicate (in person, email, phone) with MoVIP students and/or parents on monthly student progress. (PI)	• District MoVIP site facilitators/counselors access DOE's web applications to obtain information from MoVIP's student information system once a month. (PI) • District MoVIP site facilitators/counselors communicate (in person, email, phone) with MoVIP students and/or parents on student progress every quarter. (PI)	

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development **Score:**	**Everything in Proficient plus:** • District MoVIP site facilitators/counselors attended Spring 2009 DOE workshop on acccessing MoVIP's student information system. (PI)	• District teachers and counselors have attended an information session on MoVIP offered in their district/building. (PI)	• District teachers, leaders and counselors have received an informational letter or brochure on MoVIP. (PI, D)	
Leadership Practices **Score:**	**Everything in Proficient plus:** • District leadership attended Spring 2009 DOE workshop on accessing MoVIP's student information system. (PI) • District leadership uses data to monitor MoVIP and makes adjustments. (PI)	• District leadership has provided an information session on MoVIP to staff. (PI) • District leadership has collaboratively developed a process for identifying and enrolling students. (PI)	• District leadership has provided an information session on MoVIP to staff. (PI)	

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Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Rubric

Initiative: Missouri Pre-School Program (MPP)

Description: The Missouri Pre-School Program funds support programs that prepare children to the age in which they are eligible to enroll in kindergarten. School districts and private providers are able to apply for funding through a competitive bid process. All contractors are required to license the program with the Department of Health and Senior Services. Contracts are for one year and are renewable.

There are specific assurances that the program applicants must meet including teacher certification requirements, number of hours of instruction and implementing an approved curriculum. Pre-school programs must implement a nationally recognized pre-school curriculum model that is approved by DESE. The lead teacher and teacher assistant involved in the Missouri Pre-school Project must be trained in the curriculum model. It is highly recommended that the director/program administrator be trained in the chosen curriculum model. All curriculum trainings must be provided by the curriculum source. The current approved curriculum models are—Creative Curriculum, High/Scope® or Project Construct.

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context	**Everything in Proficient plus:** • Outdoor play areas provide a wide variety of apparatus that support physical growth and development. (PI)	• School has gained accreditation through the Missouri Accreditation of Programs for Children and Youth or NAEYC. (D) • All lead teachers hold the appropriate certification as outlined in the program guidelines. (PI, D) • All teacher assistants hold the appropriate certification and/or meet the requirements as outlined in the program guidelines. (PI, D) • A safe environment and the necessary supplies, materials and equipment have been secured for the school's MPP program. (PI, D, S) • Contractors' program is licensed with Department of Health & Senior Services each year. (PI, D) • All eligible students are able to enroll in the program, space provided. (PI, D)	• School has gained accreditation through the Missouri Accreditation of Programs for Children and Youth or NAEYC. (D). • All lead teachers hold the appropriate certification as outlined in the program guidelines. (PI, D) • All teacher assistants hold the appropriate certification and/or meet the requirements as outlined in the program guidelines. (PI, D) • The environment is not optimal in regards to safety and lacks materials, supplies or equipment to operate the program effectively and efficiently. (PI, S) • Contractors' program is licensed with Department of Health & Senior Services each year. (PI, D)	
Score:				

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After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Instructional Practices **Score:**	**Everything in Proficient plus:** • 95-100% of MPP teachers are implementing MPP-approved curriculum with fidelity. (PI) • 95-100% of MPP teachers effectively inform their instruction by analyzing formative assessment data and Pre-school Exit Observational Assessment data. (PI)	**At least 80% of—** • MPP teachers are implementing MPP-approved curriculum with fidelity, engaging students in the following instructional themes: ➢ Conventional Knowledge; ➢ Physical Development; ➢ Symbolic Development; ➢ Mathematical Knowledge; ➢ Communication; ➢ Working with Others; and ➢ Learning to Learn (PI) • MPP teachers engage in a variety of instructional strategies and provide multiple opportunities for student success. (PI) • MPP teachers effectively inform their instruction by analyzing formative assessment data and Pre-school Exit Observational Assessment data. (PI) • MPP staff engages in "Kidwatching" monitoring including taking anecdotal records and utilizing this data to guide their instruction. (PI, S)	• Less than 80% of teachers are implementing MPP-approved curriculum with fidelity. (PI) • Teachers address only some/half of the MPP instructional themes: ➢ Conventional Knowledge; ➢ Physical Development; ➢ Symbolic Development; ➢ Mathematical Knowledge; ➢ Communication; ➢ Working with Others; and ➢ Learning to Learn (PI) • Less than 80% of MPP teachers engage in daily monitoring of students' growth and progress including taking anecdotal records and "Kidwatching." (PI, S)	Insufficient evidence to support a conclusion of partial implementation.

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Missouri Pre-School Program

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development **Score:**	**Everything in Proficient Plus:** • 95-100% participate in "Moving on Together" technical-assistance program for MPP programs by attending regional in-service training, summer conference, and onsite consultation to each program. (PI, S) • Teachers and teacher assistants attend other professional development to enhance teaching and learning. (PI, S)	• Over 80% of staff participate in the "Moving on Together" technical-assistance program for MPP programs by attending regional in-service training, summer conference, and onsite consultation to each program. (PI, S)	• Less than 80% of the staff participate in the "Moving on Together" technical assistance program. (PI, S)	Insufficient evidence to support a conclusion of partial implementation.
Leadership Practices	**Everything in Proficient plus:** • Leadership collects data to monitor the effectiveness of the MPP and makes adjustments to program improvement plan and instruction as deemed necessary. (PI, D)	• Leadership works with staff to maintain good standing with Department of Health & Senior Services regarding licensing. (PI, D) • Leadership conducts weekly classroom walkthroughs of all classrooms and provides	• Leadership works with staff to maintain good standing with Department of Health & Senior Services regarding licensing. (PI, D) • Leadership conducts classroom walkthroughs of all classrooms at least once every two weeks,	Insufficient evidence to support a conclusion of partial implementation.

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Score:	• Leadership provides monthly opportunities for MPP faculty to collaborate with one another in vertical and horizontal teams. (PI, S)	specific feedback to teachers. (PI, S) • Leadership coordinates special education services with MPP staff to be proactive in supporting students' growth and development. (PI, S)	and provides specific feedback to teachers. (PI, S) • Leadership coordinates special education services with MPP staff to be proactive in supporting students' growth and development. (PI, S)	

In order to achieve a deep implementation score, all criteria in levels 3 and 4 must be met. In order to achieve proficient implementation, ALL criteria under proficient must be attained. To obtain partial implementation, all criteria must be met. Criteria may be the same or similar to proficient criteria but fewer in number. Criteria met are indicated by bold, italicized print.

Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Rubric

Initiative: Missouri Reading Initiative (MRI)

Description: Missouri Reading Initiative is dedicated to working with Missouri Public Schools to ensure every student will read and write proficiently.

The Missouri Reading Initiative (MRI) is a multi-year (minimum three years), onsite, professional development training program in classroom techniques in literacy for pre-K to 12th grade teachers in Missouri schools. The MRI was developed from research-based models of balanced/comprehensive literacy instruction; the findings of the National Reading Panel; annual reviews of literature and research by MRI staff; and over ten years experience in the field involving hundreds of schools, thousands of teachers, and tens of thousands of students.

The MRI also provides trainings for administrators, literacy teams, and literacy coaches statewide. The MRI is also a sponsor of an annual literacy conference that draws nationally recognized experts in literacy to Missouri.

The MRI training is consistent with the National Staff Development Council's standards for professional development, three-tiered models, response to intervention, and high-quality professional development as defined by DESE.

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Missouri Reading Initiative

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • In 100% of K-6 classrooms, daily reading instruction is scheduled for 90 minutes, and daily writing instruction is scheduled for 60 minutes. (PI, D)	• In 80% of K-6 classrooms, daily reading instruction is scheduled for 90 minutes, and daily writing instruction is scheduled for 60 minutes. (PI, D) • Classroom libraries are well organized and offer students a variety of genres and levels (K-6). (PI, S) • Classrooms are organized to allow for whole or small-group instruction and offer a comfortable area for independent reading. (PI, S) • Substitutes are secured for all MRI professional development in which they are deemed necessary. (PI, S)	• Less than 80% of K-5 grade level teachers devote at least 90 minutes to daily reading instruction and 60 minutes to daily writing instruction. (PI, D) • Classroom libraries are present in K-6 classrooms but lack organization and variety. (PI, D) • Teachers occasionally have to provide coverage for other teachers when MRI attend professional development. (PI)	Insufficient evidence to support a conclusion of partial implementation.

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Missouri Reading Initiative

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Instructional Practices **Score:**	**Everything in Proficient plus:** • Teachers differentiate student learning by analyzing student data collaboratively and making midcourse adjustments. (PI, S) • 80% of content-area teachers embed reading and writing in the content area on a **daily** basis. (PI, S)	**At least 80% of:** • Teachers utilize/implement a wide variety of ongoing formative assessments (i.e., DRA, Running Records, writing prompts, exit/entrance slips, bell ringers etc.) to monitor students' literacy growth and guide instruction. (PI, S) • Teachers employ a wide variety of instructional strategies through Reader's and Writer's Workshop, Reading and Writing in the Content Area, and Comprehensive Reading and Writing models. (PI, S) • Teachers consistently model reading and writing strategies for students to make literacy skills explicit. (PI, S) • Content-area teachers embed reading and writing in the content area at least three times a week. (PI, S)	• Teachers are beginning to use a few formative assessments but tend to rely on summative assessments to evaluate student progress. Limited attention is given to analyzing student data to make instructional decisions and/or midcourse corrections. (PI, S) • Teachers sporadically model reading and writing strategies to make literacy skills explicit. (PI, S)	Insufficient evidence to support a conclusion of partial implementation.

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Missouri Reading Initiative

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development **Score:**	**Everything in Proficient plus:** • 100% of the staff participated in MRI training (coaching, modeling, observing, and collaboration). (PI, D) • Staff utilizes building literacy coaches. (PI, S)	• At least 80% of the staff participated in MRI training (coaching, modeling, observing, and collaboration). (PI, D, S) • All new teachers engaged in MRI new-teacher training. (PI, D) • All school and/or district literacy coaches engaged in MRI Coaches' Training. (PI, D) • All school/district administrators engaged in MRI *Leadership in Literacy* Administrator Training. (PI)	• Less than 80% of the staff participated in MRI training. (PI, D) • All new teachers engaged in MRI new-teacher training. (PI, D) • School/district administrators engaged in MRI *Leadership in Literacy* Administrator Training. (PI)	Insufficient evidence to support a conclusion of partial implementation.
Leadership Practices **Score:**	**Everything in Proficient plus:** • Leadership has created an MRI leadership team to steer MRI efforts in response to student and staff needs and interests, which may include peer observations, co-teaching, or analyzing student work together. (PI)	• All school/district administrators engaged in MRI *Leadership in Literacy* Administrator Training. (PI) • Leadership conducts walkthroughs/or observations at least once every two weeks and provides teachers specific feedback. (PI, S) • Leadership is actively involved in onsite MRI training and provides staff support for these trainings (e.g., release time, planning time, materials, substitutes, etc.). (PI, S) • Leadership uses data to monitor the effectiveness of MRI and makes adjustments. (PI)	• Principals secure resources such as release time and materials but do not actively attend MRI trainings or meetings. (PI, S) • Leadership conducts classroom walkthroughs/or observations at least once a month and provides specific feedback to teachers. (PI)	

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After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

In order to achieve a deep implementation score, all criteria in levels 3 and 4 must be met. In order to achieve proficient implementation, ALL criteria under proficient must be attained. To obtain partial implementation, all criteria must be met. Criteria may be the same or similar to proficient criteria but fewer in number. Criteria met are indicated by bold, italicized print.

Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Rubric

Initiative: Professional Learning Communities (PLC)

Description: The Missouri Professional Learning Communities Project is a comprehensive school improvement program that offers guidance to Missouri schools in their efforts to focus on the fundamental purpose of schooling (learning); develop a vision of their ideal school where all students learn; commit to behaviors that will help reach the vision; and set goals that are SMART (specific and strategic, measurable, achievable, results-oriented, and time-bound). In a PLC, school efforts focus on improving student achievement.

Information from http://www.dese.mo.gov/divteachqual/sii/prolearning/description.htm states—

Professional learning communities see student learning, not teaching, as their mission. The policies, instruction, curriculum, programs, professional development, and other functions of the school all support student learning. In maintaining this constant focus on learning, four questions become paramount:

1. What should students know and be able to do?
2. How will the school determine that students have learned the essential knowledge and skills?
3. How will the school respond when students do not learn?
4. How will the school respond when they already know it?

The state PLC school-improvement model focuses on increasing student achievement by building the capacity of school personnel to create and sustain the conditions that promote high levels of student and adult learning.

WHAT DOES A SCHOOL THAT IS A PROFESSIONAL LEARNING COMMUNITY LOOK LIKE?

- The daily work of the school is driven by common purpose, shared vision and collective commitments.
- There are high expectations regarding student achievement and a commitment on the part of staff to accept responsibility for student learning.
- The learning of each student is monitored on a timely basis using common core curriculum and common assessments aligned with state standards

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Professional Learning Communities

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

- School structures support student learning and provide additional time and support for students who initially do not achieve intended outcomes.
- Job-embedded professional development leads to the collective identification of, reflection about, and implementation of "best practices" for improved student achievement.
- Staff members work collaboratively in processes that foster continuous improvement in all indicators of student achievement.
- The use of data promotes an action orientation and focus on results.
- Leadership of school improvement processes is widely dispersed and helps sustain a culture of continuous improvement.

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Professional Learning Communities

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • PLC teams have the opportunity to report and share student progress, effective instructional strategies and PLC successes with leadership and other PLC teams. (PI) • PLC teams display data in a common area for colleagues to view. (PI)	• A shared vision of school and student success has been collaboratively developed and communicated to all stakeholders. (PI) • All faculty members, including support staff, are members of a PLC team and are active participants. (PI, S) • PLC team meetings are regularly scheduled (day/time) at least once every week for at least 45 minutes during the contracted school day. (PI, S, D) • PLC team meetings consistently follow an agenda, follow collaboratively developed group norms, roles and responsibilities, and use protocols to foster collaborative work, including developing and scoring common assessments. (PI, D) • PLC teams meet in a room that has resources to support PLC teams, including chart paper, markers, resources on instructional strategies and assessments. (PI) • Records/minutes of PLC team meetings are kept in a team notebook/folder. (PI, D)	• Some grade-level or core-content area teachers along with some support staff are participating members of a PLC team. (PI, S) • PLC teams meet monthly on a regularly scheduled day, and meetings may be before or after the contracted school day. (PI, S, D) • PLC team meetings may have an agenda. Norms along with roles and responsibilities and the use of protocols are limited or fulfilled by a few key participants. (PI, D) • Records/minutes of PLC team meetings are kept in a team notebook/folder. (PI, D)	Insufficient evidence to support a conclusion of partial implementation.

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Professional Learning Communities

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Instructional Practices	**Everything in Proficient plus:** • Instructional focus is driven by multiple sources of data including state and local assessments. (PI) • PLC teams differentiate instruction based on common formative assessment data in order to target students' needs. (PI, D) • PLC teams implement system-wide tiered-level interventions monitored at least every three weeks with increasing time	• PLC teams have high expectations for all students, and those are communicated clearly to students and parents. (PI) • PLC teams make collaborative decisions on essential learning outcomes, instructional strategies, and assessments, etc. (PI, D) • PLC teams consistently use common formative assessments several times per instructional unit to measure student learning and make	• PLC teams have high expectations for all students, but these are not clearly communicated to students. (PI) • PLC teams make collaborative decisions on essential learning outcomes and assessments. (PI) • PLC teams use common formative assessments, at least once per instructional unit to measure student learning and make instructional decisions based	Insufficient evidence to support a conclusion of partial implementation.

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After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

Score:	and intensity based on multiple sources of students' academic and behavior data. (PI) • PLC teams collaboratively score student assessments. (PI, S)	instructional decisions based on the data to ensure learning for every student. (PI, D, S) • PLC teams collaboratively develop intervention strategies based on common formative assessments. (PI, S) • PLC teams create, implement, monitor and adjust SMART (specific, measurable, achievable, results-oriented and time bound) goals based on common formative assessment data. (PI, D) • PLC teams collaboratively develop rubrics for inquiry-based learning experiences and assessments. (PI)	on the data to ensure learning for every student. (PI, S) • PLC teams create SMART (specific, measurable, achievable, results-oriented and time bound) goals. (PI) • Individual teachers create rubrics for inquiry-based learning experiences and assessments and share with PLC team members. (PI)	

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Professional Learning Communities

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development	**Everything in Proficient plus:** • All members of faculty have actively engaged in additional PLC professional development to support PLC teams based on a needs assessment. (PI, S) • Staff and whole-school professional learning needs are regularly and consistently identified. (PI) • Opportunities are automatically planned to ensure staff can learn with and	• The Leadership Team has completed PLC training offered by the Regional Professional Development Center, as specified below, taking into consideration the year of implementation. **Year 1**: Three-day Summer Academy and seven days of training for Leadership Team; one day of administrator training. **Year 2:** Five days of training; **Year 3:** Three days of training; **Years 1, 2 & 3**: Onsite, job-	• Less than 80% of staff have participated in professional development focused on building a PLC team. (PI, S) • The Leadership Team has completed PLC training offered by the Regional Professional Development Center, as specified below, taking into consideration the year of implementation. **Year 1**: Three-day Summer Academy and seven days of training for Leadership Team; one day of administrator	Insufficient evidence to support a conclusion of partial implementation.

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After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

Score:	from each other. (PI)	embedded support and on-going technical support with materials and resources. (PI, D) • All members of staff have participated in professional development provided by trained Leadership Team members focused on building a PLC team. (PI, D, S) • PLC teams receive on-site specific feedback on PLC team meetings, creation of assessments, instructional strategies or how to use data from Leadership Team and/or RPDC staff. (PI,S)	training. **Year 2:** Five days of training; **Year 3:** Three days of training; **Years 1, 2 & 3**: On-site, job-embedded support and on-going technical support with materials and resources. (PI, D)	

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Professional Learning Communities

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Leadership Practices **Score:**	**Everything in Proficient plus:** • Leadership uses data from PLC surveys to make adjustments to PLC teams to deepen teacher commitment and focus on student learning through the use of data. (PI) • Leadership uses data from PLC teams to monitor the school improvement plan and make midcourse adjustments based on the data. (PI, S)	• All stakeholders value learning as the top priority for the school and take responsibility (and action) to ensure the success of every student in the school. (PI) • Administrator regularly reviews and acknowledges meeting records and agendas and gives feedback to PLCs/teachers. (PI) • Leadership communicates daily, through words and actions, high expectations for students and staff focusing on teaching and learning. (PI) • Leadership schedules monthly opportunities for PLCs to share data-driven successes and challenges. (PI) • Leadership provides the necessary supports for collaboration (i.e., time, high-quality professional development, teaming structures, etc.). (PI, S)	• Administrators delegate the review of meeting records and agenda. (PI) • Some leadership members periodically model teamwork and leadership of learning. (PI) • Other staff is involved in leading some PLC activities. (PI)	Insufficient evidence to support a conclusion of partial implementation.

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Professional Learning Communities

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Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Rubric

Initiative: Project Lead the Way (PLTW)

Description: Project Lead The Way® Inc. (PLTW Inc.) is a nonprofit organization that promotes high-quality science and engineering curricula for middle grades and high school students. Southern Regional Education Board (SREB) works in partnership with PLTW Inc. to increase the number and diversity of graduates from *High Schools That Work* and *Making Middle Grades Work* schools who are preparing for postsecondary studies and careers in engineering and biomedical sciences. Through an engaging hands-on curriculum, PLTW encourages the development of problem-solving skills, critical thinking, creative and innovative reasoning, and a love of learning. Schools receive assistance from SREB in staff development, counselor training, equipment selection and program planning.

PLTW Inc. offers middle grades pre-engineering courses, a high school engineering program of study and a high school biomedical sciences program of study.

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Project Lead the Way

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • Lab classrooms were created, and classroom environments were renovated to infuse more technology resources into instruction and learning. (PI)	• All the necessary materials, supplies and resources have been acquired to support the courses. (PI, S) • Gap analysis was conducted to support PLTW learning and teaching. (PI, D) • Equipment and facility needs have been acquired to support PLTW learning and teaching. (PI) • Students completed end-of-program assessments. (PI)	• Some of the materials, supplies and resources have been acquired to support the courses. (PI, S) • Some attention to equipment and facility needs has been made. (PI) • Students completed end-of-program assessments. (PI)	Insufficient evidence to support a conclusion of partial implementation.
Instructional Practices **Score:**	**Everything in Proficient plus:** • There is wide cross-curricular collaboration among teachers. (PI) • Teachers articulate and demonstrate understanding of the role of assessment and accountability. (PI) • Teachers differentiate instruction based on their assessment of students' strengths and needs. (PI, S)	**At least 80% of:** • Teachers consistently integrate math, science, and technology instruction into standards-based PLTW instruction. (PI, S) • Teachers fully engaged all students and have them work in interdependent teams. (PI, S) • Students co-facilitate instructional processes including leading some class lessons/ discussions, engage in peer mentoring, and lead some of their own learning groups. (PI, S) • Teachers offer students choice in their inquiry-based project learning. (S)	• Teachers are attempting to integrate math, science, and technology instruction. (PI, S) • Students are beginning to engage in some/periodic leadership such as leading a class discussion or demonstration and peer mentoring. (PI, S)	

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Project Lead the Way

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development **Score:**	**Everything in Proficient plus:** • PLTW teachers coach other teachers/their colleagues. (PI, S) • The school takes advantage of the PLTW counselor conferences to provide high school guidance counselors with a clear understanding of the program and how it fits within a student's scholastic/academic career path. (PI)	• All PLTW teachers participated in comprehensive training from a PLTW partner university. (PI) • At least 80% of PLTW teachers have attended professional development on effective instructional strategies. (PI, S) • Teachers updated their understanding of PLTW through the PLTW Virtual Academy for Professional Development and online repository of information and references. (PI) • All PLTW teachers access teacher mentors, website virtual academy, and/or additional website resources weekly to support teachers' PLTW instruction. (PI, S)	• PLTW teachers access teacher mentors, website virtual academy, and additional resources ~~teachers~~ at least once a month to support teachers' PLTW instruction. (PI) • Less than 80% of PLTW teachers have attended professional development on instructional strategies. (PI)	Insufficient evidence to support a conclusion of partial implementation.

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After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

Leadership Practices **Score:**	**Everything in Proficient plus:** • Leadership (building and district) collects and analyzes student data to monitor student progress and effectiveness of PLTW instruction and makes adjustments as necessary. (PI)	• A PLTW partnership team has been created consisting of teachers, business and industry representatives and community members to advise, support and advance PLTW integration into the school/district culture. (PI) • The District identified PLTW teachers and sent them to summer PLTW Training Institute. (PI) • Building leader conducts classroom walkthroughs of PLTW classes once every two weeks. (PI, S)	• The District identified PLTW teachers and sent them to summer PLTW Training Institute. (PI) • Building leader conducts classroom walkthroughs of PLTW classes once a month (PI, S)	

In order to achieve a deep implementation score, all criteria in levels 3 and 4 must be met. In order to achieve proficient implementation, ALL criteria under proficient must be attained. To obtain partial implementation, all criteria must be met. Criteria may be the same or similar to proficient criteria but fewer in number. Criteria met are indicated by bold, italicized print.

Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Rubric

Initiative: Response to Intervention (RTI)

Description: Response to Intervention is a framework to allow for instructional and behavioral effectiveness through the use of evidence-based practice, systematic data collection, and data-based decision-making within a tiered model. Core components include high quality, scientifically research-based core instruction, universal screening and progress monitoring, data-based decision making, well-functioning problem-solving teams, tiered model of evidence-based interventions, and fidelity of implementation.

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Response to Intervention

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • Schedules have been developed to afford needed and fluid interventions and collaborations among staff/teams. (PI, D) • A technically adequate, organized and structured school-wide screening and progress monitoring system is in place. (PI)	• Structures are in place to provide all three tiers of instruction. (PI) • Identified Tier 2 and Tier 3 students receive targeted intervention instruction to meet students' specific needs. (PI, D) • All students in the grade levels using the RTI process participate in universal screening at least three times a year. (PI, D) • Materials, supplies, resources and equipment, including technology, are readily available to teachers to provide Tier 1, Tier 2 and Tier 3 instruction. (PI, S) • Procedures and documentation to track students receiving RTI Tier 2 and 3 services have been developed, organized and distributed. (PI, D)	• Structures are in place to provide appropriate instruction after Tier 1. (PI) • Students have been identified for Tier 2 instruction, but interventions have not been delivered. (PI, D) • All students in the grade levels using the RTI process participate in universal screening at least three times a year. (PI, D) • Materials, supplies, resources and equipment, including technology, are readily available to teachers to provide Tier 1 instruction. (PI, S) • Procedures and documentation to track students receiving RTI Tier 2 has been developed; distribution has been disjointed. (PI, D)	Insufficient evidence to support a conclusion of partial implementation.

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Response to Intervention

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Instructional Practices **Score:**	**Everything in Proficient plus:** • Students move across tiers fluidly; these changes are based on results of progress monitoring and decisions made by problem- solving teams. (PI) • Student progress-monitoring data for students' tier placements are objective, replicable, clearly described, and verifiable. (PI)	**At least 80% of:** • Teachers demonstrate fidelity of implementation of the RTI framework of learning and teaching by employing a tiered model of high quality instruction and evidence-based interventions. (PI) • *Teachers assess Tier 2 and Tier 3 students through progress monitoring students weekly or biweekly. (PI, S)* • *T*eachers use appropriate assessment techniques to make data-based decisions to select intervention strategies, including time intensity, make decisions on continued use of a strategy or adjustment of a strategy and/or time. (PI) • Teachers work in well-functioning, structured, problem-solving teams utilizing a problem-solving method to make data-based decisions. (PI)	• Teachers demonstrate fidelity of implementation of the RTI framework of learning and teaching by employing a tiered model of high quality instruction and evidence-based interventions. (PI, D)) • *Teachers assess Tier 2 and Tier 3 students through progress monitoring students monthly. (PI)* • *T*eachers' instructional decisions are based on data. (PI)	Insufficient evidence to support a conclusion of partial implementation.

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Response to Intervention

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development **Score:**	**Everything in Proficient plus:** • 100% of the staff has received RTI framework (tiered model) professional development from RPDC or another source. (PI, S) • 100% of the staff has received professional development on research-based instructional strategies and interventions. (PI, S) • Ongoing coaching is provided to the staff to further refine the RTI process. (PI) • Advanced professional development in analyzing student data has been provided to the faculty. (PI, S) • Procedures are in place, so new staff are mentored and monitored for their RTI implementation. (PI)	• Over 80% of the staff has received RTI framework (tiered model) professional development from RPDC or another source. (PI, S) • Over 80% of the staff has received professional development on research-based instructional strategies and interventions. (PI, S) • Teachers work in *problem-solving teams to analyze student data and develop responsive instruction. (PI, S)*	• 80% or less of the staff has received RTI framework (tiered model) professional development from RPDC or another source. (PI, S) • 80% or less of the staff has received professional development on research-based instructional strategies and interventions. (PI, S)	Insufficient evidence to support a conclusion of partial implementation.

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Response to Intervention

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Leadership Practices	**Everything in Proficient plus:** • A school RTI leadership team has been established and developed an RTI implementation plan for the school. (PI) • Leadership monitors the RTI process and makes midcourse adjustments. (PI, D) • Leadership conducts weekly walkthroughs of all classrooms. (PI, D, S)	• District and or building-level Leadership Team structure is in place. (PI) • District and/or building have conducted a needs assessment. (PI, S) • Leadership has collaboratively developed a means to allow ~~for~~ teachers to meet ~~in~~ weekly in collaborative problem-solving teams to implement the RTI process. (PI) • Leadership provides multiple opportunities for teacher collaboration for sharing/analyzing evidence-based practices, systematic data collection, and data-based decision-making within a tiered model. (PI, S) • Leadership conducts walkthroughs of all classrooms over a two-week period. (PI, D, S)	• District and/or building-level leadership team structure is in place. (PI) • District and or building has conducted needs assessment. (PI, S) • Leadership has collaboratively developed a means to allow ~~for~~ teachers to meet ~~in~~ monthly in collaborative problem-solving teams to implement the RTI process. • Leadership conducts monthly walkthroughs. (PI, D)	Insufficient evidence to support a conclusion of partial implementation.

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Response to Intervention

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Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Audit

Initiative: School Administration Manager (SAM)

Description: The description is from www.samsconnect.com. The School Administration Manager or SAM project is a strategy designed to change the role of the principal from the managerial leader to the instructional leader, resulting in an increase in time spent on improving teaching and learning.

Educators acknowledge, and research confirms that administrative duties greatly reduce the time and focus that principals can devote to instruction; however, principals have so far been unable to find a way to eliminate time as a barrier. The SAM initiative shows promise in penetrating this "time barrier."

In 2002, with Wallace Foundation funding, three Louisville, Kentucky, schools received and pilot tested a SAM, whose job was to assume school operations functions (such as ordering textbooks, overseeing fire drills and filing reports on compliance with regulations) and thereby enabled the principal to focus more time on improving instruction. Time-use studies during the pilot period showed that once principals were given guidance on how to shift their priorities away from more accustomed non-instructional routines, the new SAM position did, in fact, result in a dramatic shift in the amount of time principals spent on instruction.

The promising early results of the initial study prompted The Wallace Foundation to support the development and diffusion of SAMs: Work is underway to replicate SAM projects in 176 schools in eight states.

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School Administration Manager

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

What is SAMs?

- SAMs is a process to focus principal time on instructional leadership, teaching practice, student learning and school improvement.
- SAMs is not primarily a person, but a function.
- SAMs is primarily a change process where the principal uses daily time/task data and reflection to influence his/her own practice.
- There are a variety of SAM models: creating a new position, converting an existing position or adding duties to an existing position.

What does SAMs Do?

- SAMs help principals use time/task data to reflect on their practice.
- SAMs help principals increase the time they spend as instructional leaders.
- SAMs help principals strengthen relationships with teachers, parents and students to improve teaching and learning.
- SAMs help principals distribute management responsibilities and work with classified, or support staff, to keep routine management administration work from pulling the principal away from instructional leadership work.

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School Administration Manager

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • The Time Change Coach has provided adequate resources to support a time shift from management to instruction. (PI, S)	• SAM *Time Track* software is easy to navigate and populate. (PI) • Perception data was collected with representation from staff, students and parents prior to shadowing. (PI) • Baseline data was collected through five consecutive days of shadowing. (PI)	• SAM *Time Track* software was challenging to download and populate. (PI) • Baseline data was collected through five consecutive days of shadowing. (PI)	Insufficient evidence to support a conclusion of partial implementation.
Instructional Practices **Score:**	**Everything in Proficient plus:** • The Time Change Coach asks principal reflective questions on use of time in order to establish goals. (PI, S) • SAM and principal set daily goals based on *Time Track* data. (PI, S)	• SAM meets with the principal each day to discuss daily schedule and how time is allocated in terms of percent allocated to instruction and management. (PI, D, S) • *Time Track* data is submitted daily. (PI) • SAM and principal set weekly goals based on *Time Track* data. (PI, S)	• SAM meets with the principal at least three times a week to discuss daily schedule and how time is allocated. (PI, S) • *Time Track* data is submitted at least three days a week. (PI) • SAM and principal set monthly goals based on *Time Track* data.	

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School Administration Manager

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development **Score:**	**Everything in Proficient plus:** • SAM and principal attend professional development on instructional leadership topics such as effective instructional practices and or providing teacher feedback. (PI)	• SAM and principal meet with the Time Change Coach once a month for at least two hours and set goals for the following month. (PI, D) • Principal maintains a reflective journal on changes, to document changes in behaviors that are resulting in a shift in focus from management to instruction. (PI) • SAM and principal collaboratively research articles and resources suggested by the Time Change Coach and have a discussion at least once a month. (PI, S)	• Time Change Coach meets monthly with either the SAM, principal, or both. (PI, S) • SAM and principal have discussions on articles and resources suggested by the Time Change Coach every two months. (PI, S)	Insufficient evidence to support a conclusion of partial implementation.
Leadership Practices **Score:**	**Everything in Proficient plus:** • Leadership self-monitors use of time on a daily basis and collects student achievement data to determine effectiveness of SAM. (PI, S)	• Leadership has processes and procedures in place to adhere to the proper use of SAM. (PI) • Leadership identifies goals and establishes action steps to meet goals. (PI) • Leadership establishes a midyear benchmark for shifts in percentage of time allocation from management to instruction. (PI)	• Leadership has processes and procedures in place to adhere to the proper use of SAM. (PI) • Leadership identifies goals and establishes action steps to meet goals. (PI)	Insufficient evidence to support a conclusion of partial implementation.

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School Administration Manager

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

In order to achieve a deep implementation score, all criteria in levels 3 and 4 must be met. In order to achieve proficient implementation, ALL criteria under proficient must be attained. To obtain partial implementation, all criteria must be met. Criteria may be the same or similar to proficient criteria but fewer in number. Criteria met are indicated by bold, italicized print.

Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Rubric

Initiative: Satellite Academy Program (SAP)

Description: The Satellite Academy Program (SAP) is a blend of regional and statewide learning experiences aimed at achieving a greater understanding on the program's three objectives. Participants are encouraged to deepen their understanding of their own strengths and weaknesses and to bring out the strengths of others; to gain a greater understanding of what it means to act as an agent of change in their communities, to grow their understanding, and to function within a professional community of learners. This year-long academy is designed to continue the learning of leaders who have moved through the phase of preparation and into practice. It is an essential component of Missouri's leadership development continuum.

As stated in the registration document,

> Participants will be given the tools to develop a personal-improvement plan based on assessment data, profiles and feedback. Each participant will learn about and develop an action research project. Participants will also acquire basic knowledge regarding change processes, data collection and analysis, and professional development for teaching and learning. Data collected over the years of the program indicate significant improvement in the skills and knowledge base of those attending the Satellite Academy. School leaders leave the Satellite Academy renewed and refocused on implementing school improvement programs for their buildings.

The breakdown of participants is approximately 20% master teachers (teacher leaders) and 80% administrators.

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Satellite Academy Program

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • Supplemental materials and resources were provided beyond the necessary items. (PI, D)	• All the necessary materials, supplies, resources and equipment, including technology, were easily accessible to complete the program. (PI) • All state and regional locations and facilities were clean and had an adequate and comfortable space to accommodate the participants. (PI, S) • Participant attended all state and regional meetings. (PI, D)	• All the necessary materials, supplies, resources and equipment, including technology, are accessible to complete the program. (PI) • Some of the state and regional locations and facilities were clean and had an adequate and comfortable space to accommodate the participants. (PI) • Participant attended the majority of state and regional meetings. (PI, D)	Insufficient evidence to support a conclusion of partial implementation.
Instructional Practices **Score:**	**Everything in Proficient plus:** • Facilitators at each meeting had participants reflect on the status of participants' professional growth goals.(PI, S)	• Facilitators guided leader participants in developing professional growth goals based on assessment data, profiles and feedback. (PI, S) • Facilitators provided in-depth knowledge and modeled skills in order for leader participants to develop an action research project. (PI, S) • Facilitators had leader participants engage in learning experiences through cooperative learning structures. (PI)	• Facilitators guided leader participants in developing a personal improvement plan based on assessment data, profiles and feedback. (PI, S) • Facilitators provided basic knowledge and skills in order for leader participants to develop an action research project. (PI)	

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Satellite Academy Program

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development **Score:**	**Everything in Proficient plus:** • Facilitators provided current information and research on best practices and educational issues at the state and national level through a variety of presentation modes. (PI)	• Facilitators provided current information and research on best practices and educational issues at the state level. (PI, S) • Facilitators were able to articulate the purpose and components of state-wide initiatives and respond to questions (PI, S)	• Facilitators provided current information and research on best practices and educational issues at the state level through a variety of presentation modes. (PI) • Facilitators had limited knowledge on the purpose and components of state-wide initiatives and were unable respond to questions. (PI)	Insufficient evidence to support a conclusion of partial implementation.
Leadership Practices **Score:**	**Everything in Proficient plus:** • Leader participants monitor their personal growth goals and make midcourse corrections. (PI, S) • Leaders share display from Data Fair research topic with building staff in an established forum. (PI, D)	• Leader participants transferred what was learned into consistent practice. (PI, D, S) • Leader participants prepare a display to share findings from Data Fair topic they researched. (PI, D) • Leader participants created a mechanism or structure in order to be able to reflect personally on SAP learning experiences. (PI, S)	• Leader participants began to transfer some of what was learned into practice but was unable to sustain consistent practice. (PI, D, S) • Leader participants prepare a display to share findings from Data Fair topic they researched. (PI, D)	

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Satellite Academy Program

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Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Rubric

Initiative: School-Wide Positive Behavior Support (SWPBS)

Description: www.pbis.org

1. **"What is School-Wide PBIS?"**

Improving student academic and behavior outcomes is about ensuring all students have access to the most effective and accurately implemented instructional and behavioral practices and interventions possible. SWPBS provides an operational framework for achieving these outcomes. More importantly, SWPBS is NOT a curriculum, intervention, or practice, but IS a decision-making framework that guides selection, integration, and implementation of the best evidence-based academic and behavioral practices for improving important academic and behavior outcomes for all students.

2. "What Does School-Wide PBIS Emphasize?"

In general, SWPBS emphasizes four integrated elements: (a) data for decision making, (b) measurable outcomes supported and evaluated by data, (c) practices with evidence that these outcomes are achievable, and (d) systems that efficiently and effectively support implementation of these practices.

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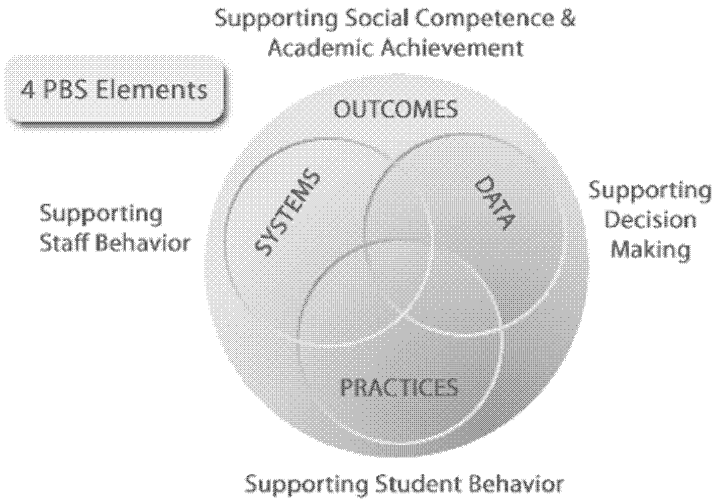

Seven Essential Components of School-Wide Positive Behavior Support

Administrator support, participation and leadership:

Feature Purpose: Administrators publicly support the SWPBS process in their school/district and in the community. They are active members of the school/district team and provide ongoing leadership, as well as support the leadership of other team members.

Feature Outcomes: Administrators provide the resources to implement and sustain SWPBS, and indicate their commitment to the SWPBS process through a variety of communication channels, including assuring that SWPBS is one of the top three goals/missions. They regularly attend team meetings and lend expertise as appropriate. They provide regularly scheduled opportunities for dissemination of SWPBS-related topics to all staff.

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After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

Common purpose and approach to discipline:

Feature Purpose: Administration and at least 80% of staff agree to implement SWPBS as a way to support students and staff. Commitment provides the buy-in necessary for implementation with fidelity.
Feature Outcomes: This means that the components of SWPBS are implemented by all staff with all students with sufficient intensity, integrity and consistency such that 80% or more of the students respond by consistently displaying expected behaviors.

Clear set of positive expectations and behaviors:

Feature Purpose: Through a collaborative process, a list of expected behaviors for students and staff are developed from commonly occurring problem behaviors across school settings.
Feature Outcomes: This means that the building first identifies three to five broad expectations for all staff and students and then identifies replacement behaviors for typically occurring inappropriate or problem behaviors. These expectations are stated in clear, specific, positive language that are setting specific. These expectations and replacement behaviors become the focus for all preventive as well as corrective interactions between adults and students.

Procedures for teaching expected behavior:

Feature Purpose: Development of an efficient process for identifying skills that need to be taught, and a system to develop materials needed for school-wide teaching of the target skill.
Feature Outcomes: Lessons tied to matrix behaviors, that include the components of TELL-SHOW-PRACTICE-FEEDBACK are developed, available for dissemination to all staff when the schedule or data indicates the lessons need to be taught. Any additional resources (e.g., scripts for pre-correcting, announcement scripts, social stories, signage, etc.) are developed and easily available for use as needed in conjunction with the direct lesson materials, such that ALL staff teach social skills commensurate with their job responsibilities.

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After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

Continuum of procedures for encouraging expected behaviors:

Feature Purpose: Provide students and staff frequent, positive, genuine feedback for displaying desired behaviors (both social and academic).
Feature Outcomes: Establish a positive school climate in which compliance receives more attention than non-compliance. Additionally, because the feedback will be contingent upon appropriate behaviors and provide specific feedback, it will serve as ongoing formative assessment information to guide future planning and learning.

Continuum of procedures for discouraging inappropriate behaviors:

Feature Purpose: Providing ALL students who display problem behaviors with clear, consistent, and educative responses from ALL adults across ALL settings, ALL day, every day.
Feature Outcomes: Increasing consistency in corrective response increases predictability for ALL students. Predictability increases students' initial compliance, student compliance with re-direction, and decreases the likelihood that student behaviors will escalate when they are approached by an adult for correction.

Procedures for ongoing monitoring:

Feature Purpose: Collect and analyze pertinent data consistently and in a timely manner. Examples of data might include student disciplinary referrals (AKA Time Out of Academic Instruction), stakeholder perceptions, counts of tangibles, attendance, tardies, etc.
Feature Outcomes: Support SWPBS team and building data-based decision making and intervention planning by providing "just in time just as needed" information.

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School-Wide Positive Behavior Support

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context	**Everything in Proficient plus:** • More than 80% of the staff is committed to implementing SWPBS. (S, D) • Teams develop for each of the Seven Essential Components: goals, action steps, responsible party, evaluation measures and timelines for each action step within the MO SWPBS Action Plan Template. (PI, D) • Tier 2 and 3 interventions have been established. (PI, D)	• At least 80% of the staff is committed to implementing SWPBS. (S, D). • All staff implements Tier 1 SWPBS. (PI, S, D) • Funding sources for three years' worth of activities has been secured. (PI, D) • The SWPBS Building Team conducts a self-assessment through the Team Implementation Checklist (TIC) and develops an action plan. (PI, D) • Action plan addressed all Seven Essential components : ➢ Administrative support, participation & leadership, ➢ Common purpose and approach to discipline ➢ Clear set of positive expectations and behaviors ➢ Procedures for teaching expected behaviors ➢ Continuum of procedures for encouraging expected behaviors ➢ Continuum of procedures for discouraging inappropriate behaviors • Procedures for ongoing monitoring • There is a Building-Level Coach to facilitate implementation. (PI, D)	• Less than 80% of the staff is committed to implementing SWPBS. (S, D) • The SWPBS Building Team conducts a self-assessment through the Team Implementation Checklist (TIC) and develops an action plan. (PI, D) • Action plan addressed at least four of the seven Essential Components. (PI, D) • There is a Building-Level Coach to facilitate implementation. (PI, D)	Insufficient evidence to support a conclusion of partial implementation.
Score:				

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After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Instructional Practices **Score:**	**Everything in Proficient plus:** • More than 80% of teachers have directly and formally taught the collaboratively defined school-wide behaviors and expectations (PI, D, S). • More than 80% of teachers hold students accountable to the clearly defined & consistent consequences and procedures for undesirable behaviors. (PI, D,S) • More than 80% of teachers list social-skills lessons on posted class schedule and directly teaches social-skills lessons. (PI, S) • More than 80% of teachers post school-wide expectations, common routines and lesson of the week/month. (PI, D,S)	**At least 80% of:** • Teachers have directly and formally taught the collaboratively defined school-wide behaviors and expectations. (PI, D, S) • Teachers hold students accountable to the clearly defined & consistent consequences and procedures for undesirable behaviors. (PI, D, S) • Teachers list social-skills lessons on posted class schedule and directly teaches social-skills lessons. (PI, S) • Teachers post school-wide expectations, common routines and lesson of the week/month. (PI, D, S)	**Less than 80% of:** • Teachers have directly and formally taught the collaboratively defined school-wide behaviors and expectations. (PI, S) • Teachers hold students accountable to the clearly defined & consistent consequences and procedures for undesirable behaviors. (PI, S, D) • Teachers list social-skills lessons on posted class schedule and directly teach social-skills lessons. (PI, S) Teaches post-school-wide expectations, common routines and lesson of the week/month. (PI, D)	Insufficient evidence to support a conclusion of partial implementation.

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School-Wide Positive Behavior Support

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development **Score:**	**Everything in Proficient Plus:** • All staff has received professional development on the implementation of SWPBS from building coaches. (PI, D, S) • Members of the SWPBS Building Team have visited exemplary SWPBS schools. (PI)	• All school building team members received PBS training from an experienced PBS trainer. Including summer training sessions. (PI, D) • At least 80% of staff has received professional development on the implementation of SWPBS from building coaches. (PI, D, S) • All administrators and coaches receive at least quarterly training and technical assistance. (PI, D) • All school building team members and coaches have received professional development in all eight Essential Classroom Components. (PI)	• At least 80% of the SWPBS building team has received PBS training from an experienced PBS trainer. • Less than 80% of staff has received professional development on the implementation of SWPBS from building coaches. (Coaches have not been identified to build internal capacity. (PI, D)	Insufficient evidence to support a conclusion of partial implementation.

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School-Wide Positive Behavior Support

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Leadership Practices	Everything in Proficient PLUS: • SW-PBS BuildingTeam gathers monthly discipline data and provides information about building SW-PBS goals and activities to key school groups (e.g. district organization and administration, parent and student organizations). (PI, D) • Building administrator(s) have developed an evaluation process for assessing the extent to which teams are (a) using SW-PBS (b) impact of SW-PBS on student outcomes, & (c) extent to which the action plan is implemented. (PI, D) • SW-PBS BuildingTeam uses data from evaluation process to make mid-course corrections. (PI, D)	• SW-PBS BuildingTeam has collaboratively established a system to acknowledge/reward school-wide expectations.(PI, D,S) • SW-PBS BuildingTeam gathers quarterly discipline data and provides information about building SW-PBS goals and activities to key school groups (e.g. district organization and administration, parent and student organizations). (PI, D) • SW-PBS BuildingTeam consistently supports teachers in using the building process for addressing behavior violations. (PI, S) • Building administror (s) headed efforts to establish a data collection & reporting process that provides complete and accurate "time out of instruction" information. (PI, D)	• SW-PBS BuildingTeam has collaboratively established a system to acknowledge/reward school-wide expectations.(PI, D) • SW-PBS BuildingTeam gathers quarterly discipline data. (PI, D) • SW-PBS BuildingTeam consistently supports teachers in using the building process for addressing behavior violations. (PI, S) • SW-PBS BuildingTeam headed efforts to establish a data collection & reporting process that provides complete and accurate "time out of instruction" information. (PI, S)	Insufficient evidence to support a conclusion of partial implementation.

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After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

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Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Missouri Department of Elementary and Secondary Education
Implementation Audit

Initiative: Technology Centers That Work (TCTW)

Description: The Technology Centers That Work (TCTW) is a version of High Schools That Work (HSTW), which has been tailored to meet in a better way the unique need of a shared-time career/technical center. Both TCTW and HSTW share the same ten key practices, which are stated on the Southern Education Regional Board website (www.sreb.org):

- **High expectations**: Motivate more students to meet higher standards by integrating high expectations into classroom practices and providing frequent feedback.
- **Program of study**: Require each student to complete an upgraded academic core and a concentration.
- **Academic studies**: Teach more students the essential concepts of the college-preparatory curriculum by encouraging them to apply academic content and skills to real-world problems and projects.
- **Career/technical studies**: Provide more students access to intellectually challenging career/technical studies in high-demand fields that emphasize the higher-level academic and problem-solving skills needed in the workplace and in further education.
- **Work-based learning**: Enable students and their parents to choose from programs that integrate challenging high school studies and work-based learning and that are planned by educators, employers and students.
- **Teachers working together**: Provide cross-disciplinary teams of teachers time and support to work together to help students succeed in challenging academic and career/technical studies.
- **Students actively engaged**: Engage students in academic and career/technical classrooms in rigorous and challenging proficient-level assignments using research-based instructional strategies and technology.
- **Guidance**: Involve students and their parents in a guidance and advisement system that develops positive relationships and ensures completion of an accelerated program of study with an academic or career/technical concentration.
- **Extra help**: Provide a structured system of extra help to assist students in completing accelerated programs of study with high-level academic and technical content.
- **Culture of continuous improvement**: Use data continually to improve school culture, organization, management, curriculum and instruction to advance student learning.

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Technology Centers That Work

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Learning Context **Score:**	**Everything in Proficient plus:** • More than 80% of students are engaged in the recommended Academic Core classes and a career technical concentration. (PI) • Expanded collaboration with sending high schools, community/technical colleges, and business/industry. (PI) • Shared-time center collaborates with each sending high school to ensure that classes are available, to ensure that all students planning on attending college are better prepared to avoid remedial content. (PI) • Employer certifications are available for students. (D, PI)	• At least 80% of students are engaged in the recommended Academic Core classes and a career/technical concentration. (PI) • Academic Core and career/technical courses are offered to all students. (D) • Literacy and numeracy coaches support continued growth in embedding academic skills into CTE instruction. (D, S, PI) • Class offerings include postsecondary credit opportunities. (PI, D) • Interdisciplinary teams, which include core-content teachers from multiple sending high schools, are formed to assist with continuous improvement. (D, PI)	• The percentage of students engaged in the recommended Academic Core classes has increased by 10-15% per year; however it remains less than 80%. (PI, D) • Low-level academic core and career classes have been eliminated, or significant progress toward this end has been achieved. (PI, D)	Insufficient evidence to support a conclusion of partial implementation.

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Technology Centers That Work

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	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Instructional Practice **Score:**	**Everything in Proficient plus:** • Teachers work collaboratively to analyze student work and assessments to make instructional decisions. (S) • Real-world learning opportunities have been expanded to include greater availability of work-based learning opportunities and development of senior projects to demonstrate content mastery. (S)	**At least 80% of:** • Teachers have established and communicated high expectations to students. (PI. S) • Daily bell ringers focus on literacy/numeracy or writing skills. (PI, S) • CTE teachers are integrating academic and career-technical content and improving quality of project-based activities. (PI, S) • Teachers allow students to resubmit work at least once in order to meet the standards. (PI, S) • Teachers integrate numeracy into daily instruction. (PI, S) • Teachers use rubrics to provide feedback. (PI, S) • Teachers engage students in weekly technical reading assignments. (PI, S) • Teachers utilize cooperative learning structures for students to complete learning tasks/assignments. (PI, S) • Teachers use high-level project-based assessments. (PI)	• Teachers have established and communicated high expectations to students. (PI) • Teachers use rubrics to provide students feedback. (PI) • Teachers utilize cooperative learning structures for students to complete learning tasks/assignments. (PI)	Insufficient evidence to support a conclusion of partial implementation

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Technology Centers That Work

After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Professional Development **Score:**	**Everything in Proficient plus:** • In most years, at least three staff members have attended the conference for HSTW offered by SREB and the Missouri Building Bridges conference on an annual basis. (PI) • Teachers work collaboratively and cooperatively with cross-curricular lessons and assignments, and with teachers from affiliated sending high schools, which may provide opportunities for students to earn a grade in multiple classes. (D, PI) • The school has participated in DESE and/or SREB-sponsored webinars, and/or other TCTW-related professional development offerings within the past two years, or is scheduled to participate in them this year. (PI) • Professional development is sustained over time with follow-up support. (PI, S) •	• At least 80% of shared-time area career-center staff has participated in the HSTW benchmarking process to expand plans from the Site Development Workshop into a multiple-year rollout plan to meet initiative goals. (PI, D) • For sites that are receiving their first TCTW Assessment report, a team composed of at least one administrator and one teacher leader attended professional development offered by DESE on the effective use of TCTW Assessment. (PI) • Teachers work collaboratively and cooperatively to develop common assessments, including end-of-course exams, and cross-curricular lessons and assignments. (PI) • Teachers use data from common assessments to make instructional decisions. (S) • Professional development is targeted on content and strategies for students to achieve national standards in content fields. (PI)	• A team composed of school leadership, faculty and staff from shared-time CTE center and perhaps sending school(s) attended the two-day Site Development Workshop presented by the Southern Regional Education Board. (PI, D) • Teachers have started to work collaboratively and cooperatively to develop common assessments, including end-of- course exams, and cross-curricular lessons and assignments. (PI)	Insufficient evidence to support a conclusion of partial implementation

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After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

	4	3	2	1
Criteria	**Deep Implementation**	**Proficient Implementation**	**Partial Implementation**	**Minimal Implementation**
Leadership Practices **Score:**	**Everything in Proficient plus:** • Leadership has created an improvement plan that specifies goals, actions, timelines and responsibilities. (D) • Building and district leadership involves the staff in collecting and analyzing data to monitor implementation effectiveness, and there is documented evidence that adjustments are made when necessary. (PI, D) • Teacher advisors contact advisees' parents, ~~and~~ include them in the development of the annual plan for study, and discuss student readiness and achievement gaps. (PI, D) • Building and district administrators have expanded teacher leadership by having teacher leaders on a series of teams focused on successful and ongoing school improvement. (PI)	• At least 80% of the teachers are involved in the building-wide advisement program that supports students in attaining higher academic expectations. (PI) • Leadership provides multiple opportunities for teacher collaboration. (PI) • Leadership has developed a uniform homework-policy governing amount, depth of knowledge, and timeliness. (PI, D) • Leadership has developed uniform policies for literacy and numeracy standards. (PI, D)	• A building-wide advisement program has been established to support students in attaining higher academic expectations. (PI) • Leadership provides multiple opportunities for teacher collaboration. (PI) • Leadership has developed a uniform homework-policy governing amount, depth of knowledge, and timeliness. (PI, D)	Insufficient evidence to support a conclusion of partial implementation

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After each criteria the data source is in parenthesis. The following codes are used: S–Online Survey, D–Document Review, PI–Personal Interview.

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Criteria Scores

Learning Context	
Instructional Practices	
Professional Development	
Leadership Practices	
AVERAGE SCORE	
Implementation Percent	

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Appendix F

Missouri Department of Education Implementation Audit™

Initiative Summaries

F.1 Initiative: 21st Century Community Learning Center

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	2.7	3	3	2.2	2.8

Learning Context

- A grant has allowed districts to purchase and utilize a variety of technology, materials, supplies, and equipment for instructional purposes.
- Each school/district has partnered with some key community groups. All schools/districts shared the value these partners bring to the total program.
- The goals established for these 21st Century Community Learning Center programs are well designed and achievable.

Instructional Practices

- Nearly all the learning activities are in direct alignment with the school day programs.
- All 21st Century Community Learning Center programs offer a large variety of activities for their students. These activities range from reading strategies instruction to cooking classes.
- In most schools/districts, the activity lessons are written and designed by site coordinators and program directors.

Professional Development

- All participants interviewed attend professional development activities throughout the school year. Many of these sessions are either regional or state level After School Program sponsored workshops.
- All four schools/districts are well connected to the Missouri After School Network, and consider this connection to be very valuable to their programs.

Leadership Practices

- All participants interviewed believe the 21st Century Community Learning Center program is well integrated into the regular school day program. Staff for the 21st Century Community Learning Center program are well connected to and accepted by regular school day staff.
- Numerous data is collected and reviewed by program staff to ensure the program is making a difference for students.
- Many success stories were shared by the staff during the interview process. In all cases, the programs are making a huge difference for the students in each of the communities audited.

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F.2 Initiative: Administrator Mentoring Program

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	3.33	3	2.83	3.41	3.2

Learning Context

- Most participants engaged in on-site collaborations with their mentors. Respondents detailed their contact with their mentors as:
    - On-site contacts (as well as phone and regional meeting interactions) with mentor (4 respondents)
    - Off-site contact only with mentor, including phone call and regional meeting interactions (2 respondents)
- Four of the six Administrator Mentoring Program participants accessed the initiative online resources. One principal's offered the following feedback: "This resource helps me (develop my) Leadership Performance Planning Worksheet." Another respondent's said: "I find the online resources timely to utilize." The two administrators who have not accessed Administrator Mentoring Program online resources offered the following explanations:
    - "Because needs are met by utilizing district resources."
    - "I did not know they were there."

- Respondents described the value of their mentor relationship with the following comments:
    - "I see my Administrator Mentoring Program mentor as an important additional support to the excellent and ongoing professional development and collaboration I receive within my district."
    - "My mentor was always there for me any time and his support and guidance were—and are—invaluable. He is a very genuine person. I am done with my AMP training and I still call him—he even gave me his personal phone number."
    - "My mentor and I collaboratively determined the goals of our collegial partnership. The focus of mentoring efforts consistently addressed supervision of staff including processes for how to best engage in practices such as walkthroughs."
    - "I talk with my mentor frequently by e-mail or face-to-face and she has been a tremendous resource for me. The real value of a mentor is that when you have an immediate and specific problem you have someone to talk to about the situation with."
    - "My mentor and I discussed common assessments; reading development, pacing (of professional development); data retrieval; implementing Positive Behavior Support in a new building; Performance Based Teacher Education; and solved challenges in engaging faculty members in Professional Learning Communities."

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- "Most of my mentoring collaborations focused on the following topics: emergency storm drills; school placement and moving students up a grade; specific situations; and teacher hiring and interview questions."
- "One superintendent described the collaboration with his mentor as "topical" (Although prompted, no other specific details were provided.)."
- "My mentor and I focused on Performance Based Teacher Education; discipline, MAP testing; school improvement; curriculum; retention; professional development; and basic managerial tasks."

Instructional Practices

- All Administrator Mentoring Program mentors adjusted their next steps and offered responsive feedback based on their partner's feedback, performance, and reflection. Several participants detailed their mentor's efforts to align mentoring collaborations with district efforts such as Professional Learning Communities and Leadership That Works (from McREL).
- Four of the six initiative mentors conducted a needs assessment in order to develop an action plan for mentoring the administrator. Two of these needs assessments were written and two were shared in conversations (but not recorded).
- Half of the interviewed participants collaboratively developed a plan for their Administrator Mentoring Program with their mentors by using the Leadership Performance Planning Worksheet. Others developed the focus of their mentoring collaborations independently. Specific feedback about the Leadership Performance Planning Worksheet included:
  - Two of the administrators said that they found the Leadership Performance Plan "difficult to fully utilize" and "cumbersome and time consuming."
  - One utilized the Leadership Performance Planning Worksheet to not only identify the greatest areas of need but also used this tool to develop a pacing chart for accomplishing the goals outlined in the plan.

  Most respondents identified curriculum and instruction as the focus of their Administrator Mentoring Program collaborations. Additionally, one principal identified the focus of his mentoring collaborations as management or policy issues while another named the focus of his Administrator Mentoring Program efforts as "putting out fires."

Professional Development

- Three of the six administrators have mechanisms in place to reflect on their leadership behaviors learned from mentors and other professional development opportunities. For example, one administrator uses a three-ring binder to record his daily reflections and refers to it frequently to refine his work.
- All administrators said that they received follow-up support after professional development to help move knowledge into practice. Some participants detailed the follow-up support they received and identified how it aligned to the goals they had established with their mentor or their Leadership Performance Planning Worksheet. Several referenced a more casual form of feedback such as "I ran things by her."
- Half of the respondents have completed at least 4 of the 8 AMP modules pertinent to administrators. They named the Administrator Mentoring Program training modules as

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pivotal professional development experiences. One participant explained, "From (this initiative), the changes in my leadership are that I stand back and take a look at the big picture which has been very important as I made the transition from my role as a teacher to a building manager and instructional leader. When I started as a principal, there were some things that I was not ready to do such as providing support to teachers, communication, and articulating our mission as a faculty—and the Administrator Mentoring Program absolutely helped me with these. If I was not a part of AMP, I would have been flying blind. It changed me even before I began being an administrator. (It was) paramount to receive their help before I began my principalship."

- Administrators identified a few to numerous "other" courses of professional development such as:
    - Professional Learning Communities with Solution Tree
    - Balanced leadership with McREL presenters
    - Hal Urban workshops
    - North West Regional Principal meetings
    - Presentations by Dr. Nicastro
    - Instructional Leadership Training
    - Response to Intervention Educational Conferences with Mike Mattos
    - Response to Intervention Summer Conference
    - Protégé and Principal Training
    - Drill Down Data
    - Promoting Higher Standards in Academics and Character with Hal Urban
    - PACE (Character Education) Team Training
    - School finance courses
    - Insurance seminars
    - Teaching for the Top: High Yield Strategies
    - Common Practices in Professional Learning Communities
    - Positive Behavior Support
    - Satellite Academies
- A few participants identified putting the following practices into place with their respective faculties thanks to their Administrator Mentoring Program professional development experience:
    - A Professional Development Committee which serves as the leadership team for the school's Professional Learning Community
    - A three-tiered intervention program
    - A modified Response to Intervention program
    - Time for the principal and new teachers to meet
    - Data meetings
    - Professional Learning Communities
    - Performance Based Teacher Education
    - Grade level expectations
    - Unwrapping and creating common assessments
    - PACE, a character education program, including future plans to implement Stephen Covey's work.
- Two administrators used the School Administrator Manager.

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Leadership Practices

- Three of the superintendents and principals proactively seek feedback from staff on leadership behaviors. Feedback vehicles included:
    - Goal development survey at the beginning and close of each school year
    - Monthly staff meetings which are set up for staff sharing and conversations
    - Professional Learning Community team meetings
    - Team logs of their meeting times with feedback to the principal
    - The school's professional development team
    - Conversations during staff meetings
    - Leadership team meetings
    - Grade level/team meetings
    - Content and building feedback meetings (which are a "smaller version of our Professional Learning Community meetings including documentations of student learning and how teachers supported their students' learning")
    - Regular meetings to share information with district employees
    - Bi-weekly faculty meetings
    - End-of-meeting evaluations or surveys
    - End-of-the-year evaluation
    - Open door policy
    - Feedback provided by the Regional Professional Development Center consultants during their monthly site visits

- All participants articulated that they have put the knowledge and skills learned from their mentors into practice. Administrators voiced the following gains from their Administrator Mentoring Program participation:
    - "The Administrator Mentoring Program has enabled me to help my staff come to a consensus so we can move forward with new initiatives; gain a better understanding of my leadership style; surround myself with people who share the same progressive vision for education but have differing strengths; and use team building activities to promote a positive culture in our building."
    - "I learned about listening to understand, a skill my mentor consistently modeled and one which we discussed often in our collaborations."
    - "I gained great insights about financial programs and information and insurance programs benefits and challenges."
    - "Working with my Administrator Mentoring Program mentor was an important support in strengthening my school's collaborative evaluation of student data, especially in better understanding cause data."
    - "I gained many skills in terms of leadership dimensions. Three key traits I gained from his mentor were:
        - Communication: Learning how to better and effectively communicate with the school district patrons, students, and faculty;
        - Management of students and faculty, especially when things are difficult; and

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        - Resiliency—especially how to be more effective when things are difficult."
    - "I especially valued how my mentor would bring up scenarios when he was a principal and offer helpful ideas of what worked."
    - "Working with my Administrator Mentoring Program mentor enabled me to problem solve the following issues:
        - Emergency Drills;
        - Hiring Practices;
        - Interview Questions;
        - How to help my staff members involved in a legal situation; and
        - Moving a kindergarten student to first grade."

  One administrator also explained that he would have taken greater advantage of the Administrator Mentoring Program if he did not already have several long time mentors in his life, colleagues he has turned to for advice and partnership for many years.
- From their Administrator Mentoring Program learning, two of the principals/ superintendents implemented new structures or frameworks. For example:
    - Intervention Programs (e.g. incorporation of a third tier in math);
    - Curriculum development; and
    - Grade Level Expectations (unpacking with common assessment writing, implementing, and evaluating).

Overall, it appears that the depth of implementations for the Administrator Mentoring Program correlated to or was most effective when mentors conducted monthly (or more frequent) site visits and when they continued offering their partner focused support as articulated in the collaboratively developed Leadership Performance Planning.

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F.3 Initiative: Missouri Career and Technical Student Organizations (CTSOs)

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	3.7	3.8	3.5	3.4	3.6

Learning Context

- Many schools and districts partner with a local community college or vocational technology school to provide vocational classes and laboratories for hands-on study.
- Many students belong to more than one Career and Technical Student Organization.
- Typically, the small, rural schools have a higher percentage of students participating in Career and Technical Student Organizations than the urban schools.
- Advisors work hard to promote student membership in the organizations and use recruitment tactics such as posters in the halls, school activity fairs, incentive activities, and student word-of-mouth.

Instructional Practices

- Career curriculum is based on state expectations.
- Students, both present and former, contribute ideas to what is taught and what activities support the learning.
- Career contests and competitions are aligned to the course curriculum and build interest in the organizations.
- Real world situations and hands-on experiences are provided as a learning context for students and are sometimes supported and partnered with local businesses.
- Students perform many service learning activities in their communities.

Professional Development

- All schools and districts participate in attending the annual Missouri Association for Career and Technical Education conference. Teachers also attend national conferences and local career area meetings as funds permit.
- Some schools have school-based professional development. Because the career teachers are few in number (usually one per vocational area), they must collaborate with teachers in other disciplines.
- Few schools provide collaboration time within the school day. Most advisors network with colleagues when they attend regional or state competitions.

Leadership Practices

- Leaders have funding challenges for student organizations with the exception of one school district that passed a tax levy to fund the organizations so students do not have to fundraise in the community.

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- Some student organizations are equally funded, while some are funded based on the amount of student participation. Virtually every student organization relies on fundraising efforts to finance participation in regional, state and national competitions. Rural schools that are located in small communities are particularly challenged to finance activities since the community resources are spread so thin.
- Student work is highlighted throughout the school buildings, in newspaper articles, in displays in trophy cases and on bulletin boards.
- One school made it a condition of the teacher's extra duty contract to highlight student activities in the news at least once a month.
- School administrators were unanimous in their belief that Career and Technical Student Organizations offer students engaging activities and real world skills that serve them well in future schooling or endeavors.

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F.4 Initiative: Enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS)

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	3	2.8	2.5	2.3	2.7

Important Information about the Enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS) Initiative in general:

- Enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS) is an instructional model that combines technology with high quality, research-based, and standards-based teaching practices that are supported by extensive professional development.
- This program began in 1997 at the University of Missouri in collaboration with the Missouri Department of Elementary and Secondary Education and the Missouri Department of Higher Education.
- Because of its sound educational principles and recognized results, it now resides in 260 schools and districts across the state of Missouri, and well as seven other states and New South Wales, Australia.
- The elements of the program include: carefully selected hardware and software tools, an inquiry-based structure, extensive and sustained professional development and coaching, internal implementation monitoring, and rigorous external evaluation.
- Every school and district that was interviewed indicates that this model is a powerful, successful, but costly initiative that needs to be expanded and funded at the state level rather than relying on local funding sources.
- Data supports that students are more engaged and successful academically in an eMINTS classroom and that teachers feel empowered through their training to create authentic and relevant learning experiences that are enhanced through technology.
- There are two levels of eMINTS implementation. The first year is called eMINTS 4 All and the second year is identified as Comprehensive eMINTS. Both levels require extensive professional development training with online seminars and face-to- face instruction. Electronic portfolios that demonstrate the learning results are submitted to the National Center for review in year two.
- The sampled schools and districts are at various stages in the implementation process but all feel it is a very successful instructional model.

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Information and themes that emerged from an analysis of the data gathered from the sampled schools and districts in the four rubric areas specifically are:

Learning Context

- Nineteen schools and two districts were selected randomly to participate in the Leadership and Learning Center Implementation Audit™.
- Two schools that were listed as having the eMINTS initiative in their buildings by the state no longer are participating. One school never has had the eMINTS initiative in their building because of a lack of funding but has sent teachers to the professional development seminars for training sponsored by the National Center.
- All eMINTS classrooms currently are equipped with the required technology and materials, but there is concern that available funding will not support replacing aging equipment to sustain or expand the program in the future.
- Displays of impressive student work including PowerPoint presentations, computer-published writing and illustrating, pod casting, movie-making, digital storytelling, SMART Board activities and song writing are visible indications of the sophistication of the products and projects created by the students.
- Approximately 50 percent of the eMINTS teachers have an opportunity to observe peers, again because of funding constraints.
- The most prevalent technology tool other than computers is the SMART Board that is used daily in all eMINTS classrooms.
- Fifty percent of the buildings have dedicated funding to support the opportunity for teachers to observe master eMINTS teachers in other schools and districts. This is reported to be an important component of the professional development plan but is difficult to implement because of limited funding.

Instructional Practices

- Approximately 50 percent of the interviews and survey results reveal that the instructional practices in the eMINTS model are evident in classrooms. The most prevalent are effective questioning techniques and classroom behavioral norms developed collaboratively with students.
- The most powerful teaching strategies that are presented in the training modules are cooperative learning and inquiry-based tasks. eMINTS teachers and administrators report that when these two practices are evident in classrooms, the students are more engaged and involved with the work or project.
- Technology does engage students. When discipline data was analyzed, it indicated that the eMINTS classrooms had less incidents of misbehavior than non-eMINTS classrooms.
- One hundred percent of the respondents report that the most prevalent technology that is in used on a daily basis in eMINTS classrooms is the SMART Board. Many applications of this technology were described.

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Professional Development

- There is a wide range of professional development activities implemented in the sampled buildings and districts. In the twenty-five percent of the schools who score at the "Deep Implementation" level with this criterion, year one and year two eMINTS teachers regularly attend training, are coached, and participate in online Moodle seminars provided by the National Center.
- Fifty percent of the respondents indicate that student data are used to inform instructional decisions and planning.
- Time for weekly collaboration is built into the schedules of seventy-five percent of the schools and eMINTS teachers have an opportunity to discuss student work, lesson planning, and training.
- At least eighty percent of the year two eMINTS teachers submitted an electronic portfolio for review at the National Center. The requirements for this artifact are examples of Web pages, Web Quests activities, and lesson plans.
- Less than fifty percent of the eMINTS teachers attended the Winter Conference because of a lack of professional development monies to support the event.

Leadership Practices

- This area has the widest range of responses and the lowest total score. Several building administrators report that they inherited the eMINTS initiative from their predecessor and have not had an opportunity to receive the leadership training necessary to fully implement the model.
- The online survey data indicates a discrepancy between the number of perceived walkthrough observations conducted and the actual number. Administrators feel they are in classrooms on a weekly basis, but the majority of teachers feel it is less than ten times per year.
- At least ninety percent of the administrators interviewed feel that eMINTS is a very valuable initiative for improving teaching and learning, see benefit to both students and teachers, but are worried about how to maintain and expand it because of limited funding sources. This was the leadership challenge most identified during the interviews.
- The leadership successes that were mentioned all involve the increased engagement levels of the students in the eMINTS classrooms. More cooperative learning and authentic inquiry-based learning tasks were noted.

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F.5 Initiative: High Schools That Work

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	1.8	2	2	1.7	1.8

Learning Context

- Most schools in the High Schools That Work initiative do not meet the Core Academic requirements as the State of Missouri mandates, mostly due to a lack of money in the districts and schools in this study. Most of the schools involved are small and unable to meet the needs of the system.
- Math is a challenge because most schools only require three years of math instead of the state recommended four years.

Instructional Practices

- Fifty to sixty percent of teachers in the High Schools That Work schools audited indicated that they try to implement the classroom practices associated with this initiative.
- There is little evidence that any summative or formative assessment work is taking place in the High Schools That Work initiative. The smaller schools audited have a more difficult time with these practices due to a smaller staff and a lack of time and money.
- There is little evidence of cross-curricular work occurring in most schools. Some evidence indicates that English and history teachers are attempting to integrate their content areas.

Professional Development

- The summer professional development programs are outstanding. Most schools have sent teams of teachers to this summer in-service activity. However, a lack of time and money during the school year makes follow-up activities difficult.
- Most schools have been unable to take advantage of the High Schools That Work webinars and the professional development made available by the Department of Elementary and Secondary Education or the Southern Regional Education Board.

Leadership Practices

- Most schools in the High Schools That Work initiative have not yet been able to establish a school wide homework policy. Many schools indicate they are working to improve this.
- Most district and school leaders use the walkthrough technique to help monitor what is going on in the classroom. In one school, such monitoring is run entirely by teachers with no administrative involvement.

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- Many of the schools have an advisement program that enables the staff to better connect with and monitor the students in their school. The advisement teachers work closely with the counselors in planning and organizing the program.

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F.6 Initiative: Making Middle Grades Work

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	2	1.5	1.5	1.5	1.6

Learning Context

- Both schools audited have implemented the Professional Learning Community concept. This provides an excellent collaborative opportunity for all teachers.
- At both schools, one hundred percent of students are identified as engaged in the Core Academic Standards.
- At one school a great deal of work has been devoted to digging deeper into data. Through this process they are beginning to see what is working and what is not working in their school.

Instructional Practices

- Bell ringer activities seemed to be the one area with the highest rating from both districts, between eighty-five percent and ninety percent.
- Cooperative learning appears to be a consistent focus for both districts. Work is still being done to implement this practice to one hundred percent capacity.

Professional Development

- Limited professional development is in place at this time in both schools interviewed. Due to the newness of the program extensive work in this area has not been done.

Leadership Practices

- Both districts have deeply embedded the Advisory Program model. It appears to be an effective tool to connect and engage with students both academically and socially.
- A four year high school plan and career plan are developed with students in the 8th grade.

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F.7 Initiative: Math Science Partnership

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	3	3	3	3	3

Learning Context

- The higher education partnership in this project is highly valued by the participating school. Many of their success stories focused on the collaborative effort both sides bring to the project.
- Teaching staff have developed an increased awareness of content knowledge through the work with their supporting university.
- Collaboration amongst teaching staff, other schools' teaching staff, and the university are very valuable to all involved.

Instructional Practices

- As a result of this project, common formative assessments have been created by teachers and are utilized as key data points in their discussions.
- Teachers and principals feel the walkthrough model has been extremely effective in this project.
- The high school has been pursuing action research on Marzano's Effective Teaching Strategies. Staff believes these are critical for the success of the program and are working to implement them when appropriate.

Professional Development

- The opportunities for collaboration are a critical component for all involved.
- The administrative support for this project has been excellent. Teaching staff feel very appreciated for all the extra time and effort going into this work.

Leadership Practices

- A key for everyone is the focused walkthrough process and the need to use data to make continuous improvement.

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F.8 Initiative: Missouri Integrated Model

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	1.5	2.25	1.5	2.0	1.8

Important Information on the Missouri Integrated Model

- If a school has not yet implemented an academic universal screening tool, implementing one is part of their Action Plans for the 2010-11 school year. Most schools were not able to achieve even a rubric score of Partial Implementation because they have not implemented a universal behavior screening tool.
- Action Plans were developed based on data gathered through the "Getting Ready" and "Self Study" documents. These documents guided what would become a priority for schools to address first in their Action Plans. Most schools revisited and revised mission and vision statements during 2008-09.
- For all schools, the 2008-09 was a preparation year to gather and analyze data, lay the foundation and develop an action plan. Some action steps were taken during the 2008-09 school year.
- Implementation of the Missouri Integrated Model is a very structured process with a lot up front preparation for teachers, administrators, parents and community members to ensure implementation is successful.
- Overall, there was a level of excitement on the part of the people interviewed that the Missouri Integrated Model is making a difference in their schools.

Learning Context

- This is a federally funded pilot program. Fourteen elementary schools were selected in June 2008 to participate starting in September 2008. In the random sampling, a high school was also selected; however grades 7-8 in this district are also participating in the Missouri Integrated Model.
- This initiative was not in place during the 2007-08 school year, and thus does not have two years of student achievement data to demonstrate a relationship between implementation and academic achievement.
- The University of Kansas is the outside evaluator.
- The grant funding for the Missouri Integrated Model has allowed for the purchase of the universal screening tools, professional development, and support through the Implementation Facilitator.
- The communication system varies between schools—some use a variety of modes while others lack a communication system altogether.
- Documents from one school showed extensive use of data to make decisions regarding students entering and exiting the different tiers of instruction. Comments from most of the schools show limited knowledge of effect data beyond high stakes assessment or DIBELS since most schools are Reading First schools. There was limited, if any, evidence of an understanding and use of cause data.

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- AIMSweb is the universal academic screening tool selected by most of the schools audited and has either been implemented this year or will be implemented next year.

Instructional Practices

- In the four schools audited, all but one staff member was either "committed" or "highly committed" to implementing the Missouri Integrated Model with fidelity.
- It is evident in all schools that teachers are beginning to implement tiered instruction and progress monitoring at least every two weeks.
- Minutes from meetings indicate most schools have weakly structured problem-solving meetings (often called data meetings in these schools).
- Evidence in the school earning a Proficient rubric score in Instructional Practices indicates the use of data and discussions on instructional strategies for the tiered groups including what has been successful and what has not.
- The amount of time for and frequency of problem-solving meetings varies. One school indicated that scheduling more time for teachers to meet is included in the 2010-11 Action Plan.

Professional Development

- A professional development Needs Assessment was completed by all schools which are part of the Missouri Integrated Model and these assessments have been incorporated into school Action Plans.
- One school, through the funding of the Missouri Integrated Model, was able to have all teachers attend implementation training for Everyday Math, even though the school had been using the program for the past few years. This included observation days, when teachers would visit classrooms in which Everyday Math was being implemented in area schools.
- Professional development for the use of AIMSweb has been provided through the use of grant funds.
- The district and building leadership teams have received much professional development and support from the Missouri Department of Education and their respective Regional Professional Development Centers.
- Professional development in Professional Learning Communities is common in each of the schools, as is Response to Intervention.
- Professional development in "How to Use Data" was an "eye opener" for one school and its staff.
- Each school has an Implementation Facilitator and every school indicated that this person is the best component of the Missouri Integrated Model, keeping the process moving forward and focused.
- Only one of the four schools is at the point of implementation allowing them to identify teachers qualified to serve as coaches to other teachers in the Missouri Integrated Model essential elements and components. This is the criteria preventing schools from obtaining Partial or Proficient Implementation.

Leadership Practices

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- All schools have collaboratively developed Action Plans based on the analysis of data gathered from a variety of resources. Action Plans include a budget component.
- Most of the schools rely on effect data rather than a combination of effect data and cause data. Action Plans include a Data Resource for the Goals and Action Steps, but this is not specific enough regarding when the data is collected. The monitoring component is not detailed in the Action Plans.
- Leadership involves all staff in the Missouri Integrated Model and seeks input and feedback, strengthening the level of commitment to implementing the Missouri Integrated Model.
- In the smaller rural schools, the District Leadership Team is the same as the Building Leadership Team.
- All interviews revealed that implementing the Missouri Integrated Model and three tiers of instruction is having a positive impact on instruction.
- One school indicated that the greatest challenge has become the "paperwork" associated with the Missouri Integrated Model because a lot of it falls on the principal, especially in the smaller schools.
- The Implementation Facilitator is a critical component to the success of the Missouri Integrated Model.

Important Information on the Missouri Integrated Model

- If a school has not yet implemented an academic universal screening tool, implementing one is part of their Action Plans for the 2010-11 school year. Most schools were not able to achieve even a rubric score of Partial Implementation because they have not implemented a universal behavior screening tool.
- Action Plans were developed based on data gathered through the "Getting Ready" and "Self Study" documents. These documents guided what would become a priority for schools to address first in their Action Plans. Most schools revisited and revised mission and vision statements during 2008-09.
- For all schools, the 2008-09 was a preparation year to gather and analyze data, lay the foundation and develop an action plan. Some action steps were taken during the 2008-09 school year.
- Implementation of the Missouri Integrated Model is a very structured process with a lot up front preparation for teachers, administrators, parents and community members to ensure implementation is successful.
- Overall, there was a level of excitement on the part of the people interviewed that the Missouri Integrated Model is making a difference in their schools.

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F.9 Initiative: Missouri Option Program

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	2.4	2.5	2.3	1.8	2.3

Learning Context

- Only three of the high schools selected to participate in the audit house their Missouri Option students on their campuses. Twenty schools and districts offer the program at the district alternative education site or career and technical center. The information gathered addresses the program components as they exist in those alternative education placements.
- Missouri Option students have access to all educational programs available to any high school student with the exception of courses with prerequisites or athletics, which are state governed.
- Classroom space is typically equipped with a bank of computers and worktables. The environment is much more casual than a regular classroom.
- A daily student schedule includes three hours of classroom time and three hours of employment, volunteering, or career education courses. The three required state courses of government, health, and personal finance are offered at the alternative school or the home high school.

Instructional Practices

- Technology is the primary way instruction is delivered. Most of the three hours of daily instructional time is self-directed, computer-based learning using a variety of software programs.
- The Test of Adult Basic Education (TABE) is used as a locator test as well as an indicator of the skill level of each student. Success with the GED practice test materials guide the decisions regarding a student's readiness to pass the final GED test requirement.
- The Missouri Option teachers are highly involved with the students and seek additional assistance and support from available community agencies for these students when appropriate.
- Most large programs have a waiting list for participation in Missouri Options.

Professional Development

- All but one Missouri Option teacher attended the summer workshop sponsored by the state in August 2009.
- Teachers have opportunities to participate in any professional development that is available to all high school teachers.
- Pathways at-risk training is a common professional development experience among Missouri Option teachers.

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Leadership Practices

- The state assurances are followed.
- A systematic process is available for identifying and enrolling students in the Missouri Option Program. Some students maintain enrollment at their home high school while others are enrolled at the alternative schools.
- There is a noted difficulty in finding jobs in order to meet the employment requirement because of today's economy.
- There is limited opportunity for teachers to visit other Missouri Option sites.
- All state required paperwork is completed and submitted in a timely manner.
- Parent involvement and communication is difficult to initiate and sustain.

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F.10 Initiative: Missouri Preschool Project

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	3.4	3.7	4	3.3	3.6

Learning Context

- Most Missouri Preschool Project schools and districts are accredited. The rest are in the process of completing their accreditation certification.
- Some schools struggle to meet outdoor learning environment requirements (such as having adequate shade; updating playground/gross motor equipment; water/sand tables; etc.), mostly due to financial challenges.
- Missouri Preschool Project funding has enabled schools/districts to either establish a competitive salary scale or have funds to create safe, learning-rich, and resource-responsive indoor and outdoor learning environments.

Instructional Practices

- One hundred percent of the studied Missouri Preschool Project sites have adopted Project Construct as their curriculum. Lead preschool teachers and teacher assistants consistently follow the protocols for implementing Project Construct including time, professional development requirements, program specific supplies, materials and resources, and technology. Project Construct was consistently named as child-centered and developmentally appropriate.
- Ninety-five to one hundred percent of Missouri Reading Initiative preschool educators use assessment tools such as anecdotal records, observations, checklists, program progress reports, Early Childhood Environment Rating Scale-Revised, Development Indicators for the Assessment of Learning-Third Edition screenings, and exit assessment evaluations to inform their instruction.
- Approximately thirty-five percent of the studied Missouri Preschool Project schools use portfolios to monitor student progress over time.
- Fifty percent or more of preschool educators know why and how to use "kidwatching" effectively to guide their teaching decisions.

Professional Development

- Missouri Preschool Project educators and school/district leadership value and engage in Missouri Preschool Project professional development trainings.
- Lead teachers and assistant teachers often engage in professional development together.
- The following professional development trainings were consistently listed by Missouri Preschool Project educators as integral: Project Construct; Moving on Together; site visits from Regional Professional Development Centers and/or literacy coaches; Conference of the Young Years; Child Development Associate certification

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workshops; Early Childhood Exit Assessment; the Missouri Preschool Project Summer Conferences; and district in-service workshops.
- Follow-up to Missouri Preschool Project professional development appears to be self directed or self initiated by a few schools/districts. For most sites, follow up was articulated as "discussions" or "used in classrooms."

Leadership Practices

- All preschool educators interviewed said that the Missouri Preschool Project has strengthened their capacity to better prepare students academically and socially for Kindergarten and primary grade curriculum and standards.
- Most Missouri Preschool Project programs reflect a full integration or are seen as valuable or essential partners in the school's overall education program. A few others appear to be viewed as a "step child" program. Teacher to teacher collaborations, walkthroughs, and leadership support are not high priorities at some preschool sites.
- While leadership engages in walkthroughs, specific feedback appears to be limited to checklists of safety or environment items.
- A few of the Missouri Preschool Project schools/districts have created professional collaborations between their preschool educators and primary grade teachers.
- Approximately sixty percent of school/district leaders have developed plans for monitoring and evaluating the effectiveness of their Missouri Preschool Project program by collecting and analyzing data from various sources.

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F.11 Initiative: Missouri Reading Initiative

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	3	3	3.1	2.8	3

Learning Context

- Missouri Reading Initiative guidelines advocate that teachers devote at least ninety minutes to daily reading instruction and sixty minutes to daily writing instruction. Most schools are engaging their students in approximately half the advised time for reading and writing. Only one school is honoring the Missouri Reading Initiative literacy teaching schedules.
- All studied Missouri Reading Initiative sites have strengthened classroom libraries to reflect more reading levels and genres. The improvements made to classroom libraries have supported teachers' modeling and offered students more texts for guided reading and independent reading practice.

Instructional Practices

- Eighty-five to one hundred percent of Missouri Reading Initiative teachers inform their instruction by analyzing formative student assessment data with tools such as the anecdotal records, writing prompts, Developmental Reading Assessment data, conference notes, running records, exit/entrance slips, and teacher observation of student need for strategy instruction.
- Teachers utilize the above data to determine the membership and focus of small instructional groups. Most Missouri Reading Initiative educators are using one or two sources of data to create guided reading groups.
- One hundred percent of Missouri Reading Initiative educators utilize a variety of instructional strategies such as read alouds, mini lessons, modeling, cooperative learning, journaling, before, during and after reading strategies, and advanced organizers.
- Three out of the four studied sites reported deep implementation (ninety percent or more) in employing Reader's and Writer's Workshop as their chief literacy instructional framework.

Professional Development

- Some small schools and districts are struggling to fully engage in all or enough Missouri Reading Initiative professional development and follow-up, especially trainings designed for administrators and new teachers.

Leadership Practices

- Regular walkthroughs followed by detailed feedback appear to be challenging tasks for most of the studied Missouri Reading Initiative sites. While most administrators

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have participated in some or many Missouri Reading Initiative trainings, there is a lack of feedback to teachers.

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F.12 Initiative: Missouri Virtual Instructional Program

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	3.5	3.5	2	2.5	2.9

Learning Context

- Interviews indicate that the communication from the state level to the schools/districts regarding the Missouri Virtual Instruction Program is excellent.
- The Missouri Virtual Instruction Program initiative is highly promoted both state-wide and locally.

Instructional Practices

- The teachers associated with the Missouri Virtual Instruction Program do an excellent job of communicating student progress back to the receiving school.
- Communication is initiated every two weeks between the school/parent/student and the Missouri Virtual Instruction Program teacher.
- Feedback is provided in a timely manner, allowing the schools to work with the students to address successes and challenges quickly.

Professional Development

- Most professional development is done by the counselors involved on the program. The building principals attend some functions, but most of the connection is with the counselor.

Leadership Practices

- The greatest successes of the Missouri Virtual Instruction Program centers on the students having access to courses they would normally not have at the school due to size of the district. In most cases this means students may take a more challenging course than what might be offered at school.
- Although there are not large numbers of students involved, it has been highly beneficial to those involved in Missouri Virtual Instruction Program.
- Administration members interviewed in both sites are pleased to have the Missouri Virtual Instruction Program available to their students.

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F.13 Initiative: Professional Learning Communities

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	3	2	3	3	2.7

Learning Context

- Two of the twenty-nine schools and five districts selected had not done any work with Professional Learning Communities, and no plans to do so.
- Implementation of Professional Learning Communities range from the Preparing to Sustaining category.
- Small schools had trouble with the concept of common formative assessments when there was only one teacher per grade level or content area.

Instructional Practices

- The training provided for Professional Learning Communities implementation gave the districts and buildings structure, consistency, and a solid foundation for building as early steps are mastered.
- The process of developing the mission and vision has been beneficial to a focus on student achievement.
- Professional Learning Communities have enabled teaches to collaborate, share instructional strategies, and work together for the success of all students.

Professional Development

- Training provided by the regional professional development centers is highly valued. The two instructional coaches provided are supportive and provide guidance, support, and feedback. Regional training follows a "train the trainer" model.
- Districts and schools consistently reported that they never could have implemented this initiative without the help of the regional professional development centers. They raved about the effectiveness of the resources, videos, notebooks, and handout materials.
- Funding has been supplied for summer staff conferences, including the Power Learning Conference, which districts and schools report they could not have afforded to do on their own.

Leadership Practices

- Building and district leadership teams include principals, superintendents, and select teachers.
- Some leadership teams rotate the teachers on the leadership team for the regional monthly trainings, so more teachers get the direct training and have the opportunity to present.
- Leadership teams monitor the building professional leadership teams along with the instructional coaches provided by the regional professional development center.

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F.14 Initiative: Project Lead The Way

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	3.2	3.1	3.2	3.2	3.2

Learning Context

- Most Project Lead The Way schools have created strong relationships with the educational and business communities that have an interest in the engineering and bio-medical career fields.
- Many of the Project Lead The Way schools have connections with the ACE Mentor Program of America, Inc. The ACE organization is a unique partnership among industry professionals and educators to help promote architecture, construction, and engineering careers.
- It is evident that the leadership in the districts and schools that have the Project Lead The Way initiative are very supportive of it, and they ensure that the needed resources are found to support the initiative.

Instructional Practices

- Project Lead The Way teachers indicate that the program has brought about significant changes in their approach to instruction. The educators that are teaching in the program embrace the Project Lead The Way instructional practices and use them with fidelity.
- The Project Lead The Way curriculum is project based and students are required to work in teams to learn and teach together in a collaborative setting, teaching students how to be leaders in and out of the classroom.
- The students enrolled in the Project Lead The Way initiative are very engaged in the instruction and they understand the importance of working together.

Professional Development

- The two-week summer training provided for teachers for each class they teach does a remarkable job of preparing them for the Project Lead The Way classroom. The summer training also creates a culture that encourages teachers from all over the state to continue to collaborate together to improve instruction.
- Their districts and schools support the successful Project Lead The Way schools with a great deal of professional development in addition to Project Lead The Way offerings.

Leadership Practices

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- The use of walkthroughs as a way to assess the effectiveness of instruction is very common in the Project Lead The Way classrooms. District and school leaders are driven to make weekly walkthrough visits to all classrooms.
- Most Project Lead The Way schools collect and use data to help guide the instructional practices of the teachers. The schools have Professional Learning Communities or Data Teams that provide the structure needed for teachers to work collaboratively together.

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F.15 Initiative: Response to Intervention

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	3	2.7	2.6	3	2.8

Learning Context

- Two Response to Intervention sites are in their second year of implementing this initiative and one is in their third year of implementation.
- This is the first school year that the Missouri Department of Secondary and Elementary Education has had a coordinator guiding Response to Intervention efforts. Thea Scott, Director of Three-Tiered Model Coordination, is now leading the state department's Response to Intervention efforts. Dr. Scott contributed the following:
  - We are at the initial stages of the three model work.
  - We do not really think of Response to Intervention as a single initiative or as an initiative itself. We think of three tired models—Positive Behavior Support, Professional Learning Communities, and interventions—not just academic models of Response to Intervention. Our job is to promote and align the three tired models of intervention…Making sure that the activities we do are aligned….To make sure that Behavior Support is not over here and Professional Learning Communities are over here….Our collaborative work is one of the cornerstones of how we move forward.
- One Response to Intervention school district has bridged their Professional Learning Community efforts to their Response to Intervention efforts. This alignment is especially focused on what to do when students aren't learning.

Instructional Practices

- All Response to Intervention sites said that their Response to Intervention teachers have become better equipped to identify and respond to the needs of struggling students by diagnosing students accurately and by offering students research-based interventions in their classrooms.
- Teachers utilize data from assessments such as AIMSweb, Star, SRA, Missouri Assessment Program, Treasures, classroom data (including a few forms of common formative assessments) to identify students in need of interventions
- Teachers also use one or more of the above assessment tools as their "universal screening" tool and as their "progress monitoring" tool.
- One hundred percent of the studied Response to Intervention sites utilize a pyramid of research-based interventions/instructional practices to employ with students that have specific skill deficits.

Professional Development

- Two Response to Intervention sites have engaged all or most of their faculties in numerous professional development efforts.

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- One site has achieved just ten percent participation in Response to Intervention training efforts.
- Professional development efforts include: Response to Intervention (foundational) trainings with Mike Mattos, Erica Lembke (University of Missouri), and/or Beth Wood; the Response to Intervention Academy sponsored by the Department of Elementary and Secondary Education and the Regional Professional Development Centers; Curriculum Based Measurement; Decision Making and Planning for Implementation; Targeted Instructions and Interventions; Pyramid of Interventions; Changing Student Behavior; Practical Strategies to Support Struggling Students; research-based strategies and interventions; SPIRE; Differentiated Instruction; Envisions; Irene Fountas and Gay Su Pinnell workshops; Behavior Intervention Support Teams; Assessment for Learning; Missouri Assessment Program assessment workshops; and analyzing student data from the AIMSweb assessment.
- One studied district has been selected as a Response to Intervention "development site" for the Missouri Department of Secondary and Elementary Education. This school will receive future assistance from the National Center on Response to Intervention.

Leadership Practices

- All studied Response to Intervention sites have established a leadership or steering committee to monitor, evaluate, and support their Response to Intervention efforts (assessment and evaluation; classroom instruction; specialized/Tier 2 and Tier 3 interventions; professional development; articulation and reporting; scheduling collaborations among teachers and teams to evaluate students' progress and plan responsive instruction; etc.).
- Two of these teams have already determined the monitoring tools they will use to evaluate the impact of Response to Intervention on student achievement. The third site is in the process of finalizing their plans.
- All leadership teams have been establishing walkthrough tools and/or detailed, edifying feedback forms/exemplars this year.

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F.16 Initiative: Satellite Academy Program

Initiative summary not applicable.

F.17 Initiative: School Administrative Manager (SAM)

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	3	3	2	2	2.5

Learning Context

- The superintendent does not use the School Administrator Manager Web site. He does use a similar resource from the University of Kentucky.
- For the interviewed district, there are 13-14 district employees using the School Administrator Manager.
- Every participant uses the Timekeeper software daily. "If you don't access it every day, you're lost," one administrator responded.

Instructional Practices

- The time change coach asked participants reflective questions to "make sure that we have established what we want to get done and to stay focused. If there is not an exchange, they cannot help you stay focused."
- The superintendent described the goals as "a constantly moving target."
- Logging into the School Administrator Manager is a daily ritual. Participants learned early on that if they did not utilize this resource every day that it was "impossible to keep up with it."
- Shadowing has been completed with/for all participants.

Professional Development

- The superintendent meets with the time coach once a month for approximately one hour.
- District School Administrator Manager participants have not engaged in any of the ongoing initiative professional development.
- Key insights voiced by the superintendent included: "I guess for me, the realization that before I started doing this, I know I was busy all the time but I could not tell you what I was doing. This way, I can account for my time and that was the real purpose for engaging in this effort. Now, I can report to my Board of Education the time I devote to any given effort."
- As other Missouri districts explore utilizing the School Administrator Manager and contact current participant superintendents, they are encouraged to reference the School Administrator Manager Web site with its "wealth of resources."

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Leadership Practices

- Using the School Administrator Manager was described as both difficult and eye opening– difficult in terms of his beginning use of this program and eye opening because "you realize how much more efficiently you can use time, especially if you had had some accountability program when you started."
- For the superintendent, the effectiveness of this initiative is that it helps him be accountable to his Board of Education. Additionally, he encouraged his district administrators to become involved in the School Administrator Manager to increase "true accountability" throughout their community.
- There are currently no mechanisms in place to monitor the effectiveness of the School Administrator Manager in this focus district.
- While the superintendent hoped that his use of the School Administrator Manager would help him "spend more time out in the classrooms," he has not been able to accomplish this goal. However, he believes his use of the School Administrator Manager will assist him over time.
- The superintendent offered the following closing evaluation of the School Administrator Manager: "This is an absolutely great program. It is an absolute challenge. The outcomes are outstanding. Something that we value a great deal is the month-to-month coach who comes in and helps us refocus our goals."

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F.18 Initiative: School-Wide Positive Behavior Support

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	2.6	3.2	2.8	2.9	2.9

Learning Context

- The majority of schools began the School-Wide Positive Behavior Support initiative in Missouri during the 2007-08 school year—almost a consecutive three-year commitment to the implementation for most schools that participated in the audit. Three schools have worked with School-Wide Positive Behavior Support for five years or longer.
- Five hundred Missouri schools and one hundred fifty districts currently participate in implementing this initiative. Fourteen schools and three districts participated in this implementation audit.
- There is a high level of commitment for this initiative with thirteen out of fourteen buildings implementing Tier One with eighty-five percent to ninety-percent of the students. There is the recognition that dramatic positive change in the learning climate results when implementation of School-Wide Positive Behavior Support is conducted with fidelity.
- The building action plan is created by the Positive Behavior Support team and coaches, includes the seven essential components, and is followed closely during the school year.
- Only one building out of fourteen did not identify a coach to support the implementation of Positive Behavior Support.
- All but one building has received the bronze level of implementation designation from the state.

Instructional Practices

- The Big Five data are collected by each of the participating schools. This includes information about the "who, what, where, when, and why" of office discipline referrals. Analysis of the data is beneficial for monitoring the process and making mid-course corrections when necessary.
- More than eighty percent of the teachers directly teach the universal behavioral expectations and social skill lessons, and hold students accountable for behavior choices.
- Posting of the behavior expectations and the matrix in all classrooms and common areas is critical for communicating those expectations with consistency and clarity.

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Professional Development

- The summer institute is viewed as a very valuable support for the teams that attend. Only one building did not have the opportunity to attend the two and one half day training held in August 2009.
- Time for the teams to revisit the building data and incorporate it into the action plan is necessary for the implementation of School-Wide Behavior Support to occur.
- Regional training for coaches to support the implementation of Tier Two and Tier Three is critical at this point in the implementation process.
- Teams would like more opportunities to visit sites that have exemplary programs, but funding is prohibitive.

Leadership Practices

- Each building has created extensive incentive and reward systems for students and teachers to celebrate positive behavior successes.
- Data gathering provides some obstacles for many schools due to a lack of systemic school information systems that can accommodate the state requirements for data collection.
- Only three of the buildings report that they calculate loss of instructional time for major office referrals.
- There is significant work to be accomplished with Tier Two and Tier Three implementation.

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F.19 Initiative: Technology Centers that Work (TCTW)

Range of implementation of the initiative for all schools:

Rubric Area	Learning Context	Instructional Practices	Professional Development	Leadership Practices	Total Score Average
Score	2	2	2.3	1	1.8

Important Information on Technology Centers that Work (TCTW)

- The Southern Regional Education Board introduced Technology Centers that Work in 2007. In 2007 there were eight states that began implementation. Of the three Technology Centers that Work sites, two had previously began implementation of High Schools that Work but transitioned to Technology Centers that Work.
- One Center commenced implementation in September 2009, one in 2008 and one in 2007.
- The Technology Centers that Work are located at shared sites. Shared sites are Career Technical Centers scattered across the state. There are 52 Career Technical Centers of which ten are implementing Technology Centers that Work. Each shared center is located in a district and accepts students from feeder or sending schools. Students as juniors and seniors attend for three hour blocks either in the morning or afternoon. The other part of the day is in their home district. Students that attend the high school(s) that are on the same campus as the Career Technical Center may attend hourly electives starting as freshmen.

Learning Context

- Increasing the academic rigor of Academic Core courses as well as career/technical courses is a high priority. At all three schools, students were able to earn English and math credits through the integration of communication arts and math standards into career/technical courses.
- None of the schools had a clear plan how to increase the number of students taking the Academic Core and career concentration. They also did not establish benchmarks for increasing the number of students taking these courses.
- All three schools also were able to offer a range of college credits depending on the program of study. For example, at one technical center the local community college granted up to 27 credit hours for the automotive program.
- Literacy and numeracy coaches are an integral part of Technology Centers that Work to support career/technical teachers in integrating literacy and numeracy into their curriculums. One school has employed an English teacher and math teacher for the past four and three years, respectively. Another school used the Technology Centers that Work grant funds to hire a literacy coach and a math coach. The third center did not have literacy/numeracy coaches or teachers on board.
- Interdisciplinary teams are beginning to develop on site, but they are not including staff from the sending (feeder) high schools.

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Instructional Practices

- There were several instructional practices that were deeply embedded and being implemented by at least eighty percent of teachers. These included: establishing and communicating high expectations, integrating academic and career/technical content into project-based activities, allowing students to resubmit work at least once, using rubrics to provide student feedback, and utilizing cooperative learning structures during learning experiences. The instructional practices that still have not taken a strong hold in all three schools include: incorporating daily bell ringers focusing on literacy/numeracy and writing skills, engaging students in weekly technical readings, and having students complete high-level project based assessments.
- Senior projects were a part of one school's program. Students actually present their senior project to the members of the program Advisory Board. The Advisory Board consists of representatives from the sending schools, as well as area business and industry representatives of the program of study.
- Students at all three schools had the ability, with the support of local businesses and industries, to job shadow, engage in an internship, go on site visits, listen to guest speakers in their trade, or participate in a mock interview.

Professional Development

- Since staff are fairly small (15-24) at the Technology Centers that Work, all staff are able to participate in the professional development that is offered.
- Two of the three centers were able to hold collaborative meetings. One holds monthly Professional Learning Community meetings and the other allows teachers to meet daily for one hour. This time is also used for professional development.
- Professional development has been a strength of the three schools interviewed. Focus has been on instructional strategies such as cooperative learning, using bell ringers and integrating literacy and numeracy into career and technical courses.
- Collaborative time is being used to develop cross-curricular lessons, but this is still a need for most schools as evidenced in the TAV report for two of the three schools. The third school is awaiting their first report, but the exit conference PowerPoint noted a similar challenge.
- Using data to make instructional decisions seems to be a need for schools at this time to further enhance instruction.

Leadership Practices

- Policies for literacy and numeracy standards have yet to be developed at any of the sites interviewed.
- Having a uniform homework policy is another criteria that was lacking evidence in teacher and/or student handbooks.
- Two of the three schools provide time for teacher collaboration, as stated above in the professional development section.

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Appendix G

Missouri Department of Education Implementation Audit™

Consultant Biographies

The Leadership and Learning Center™

Laura Benson

Laura Benson is a Professional Development Associate for The Leadership and Learning Center. Laura brings over twenty-eight years of teaching to her work as a teacher educator and literacy consultant. Her work in professional development began during the first years of her teaching career when she was asked to develop a writers' workshop lab classroom for colleagues. Laura's demonstrations of writing instruction and evaluation grew into staff development efforts devoted to reading instruction and integrating literacy instruction and content area learning.

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Cheryl Dunkle

Cheryl Dunkle is a Professional Development Associate for The Leadership and Learning Center, located in Denver, Colorado working with school districts across the country in the areas of assessment, accountability, and standards implementation. She has been a practicing elementary principal with Douglas County Schools since 1983. Previous to that, she served as an elementary guidance counselor and a teacher of primary students for fourteen years. She recently retired from public education in July of 2001.

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Martha Fenstermacher

Martha Fenstermacher is a Professional Development Associate for The Leadership and Learning Center.

An educator for over thirty years with the Albuquerque Public Schools, Martha is a lifelong learner and advocate for student success. Martha's classroom experience includes extensive involvement with the Advanced Placement (AP) Program and the College Board. She taught the senior level Advanced Placement Literature and Composition for seventeen years, was a reader for the Advanced Placement Literature exam for six years, and became a consultant for the College Board presenting both Advanced Placement and pre-AP course curriculum at AP Summer Institutes in the Southwest region. Martha received a Special Recognition Award for Outstanding Achievement in Curriculum in the Advanced Placement Program from the College Board Southwest Regional Council. Taking her work to the national level, Martha has presented session topics at the Advanced Placement National Conferences.

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Tony Flach

Tony Flach is a Professional Development Associate with The Leadership and Learning Center. He has also served as Senior Coordinator for Data Support in Norfolk Public Schools. In that capacity he assisted PK-12 teachers and administrators in the use of data to support instruction, the design of rigorous standards-based assessments, and constructs data collection and analysis systems. Tony focused intently on helping schools design and implement their School Accountability Plans, a part of the NPS Comprehensive Accountability System. That Accountability System, along with many other innovative practices, has earned Norfolk recognition as one of the best urban school systems in the country. Accolades for Norfolk's work have come from such prestigious organizations as the Broad Foundation, the Council of Great City Schools, and the Stupski Family Foundation.

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Tracey Flach

"Learning is not attained by chance. It must be sought for with ardor and attended to with diligence." Abigail Adams (1744-1818)

Tracey has been a Professional Development Associate with The Leadership and Learning Center since September 2005. She has worn many hats during her years in the education field. Her most recent district position was that of Assistant Superintendent for Curriculum and Instruction in the Waterloo Central School District, located in the Finger Lakes Region of New York. She also served as the Interim Superintendent for several months in Waterloo, but her heart is in curriculum and instruction. Her administrative positions prior to working in the Waterloo Central School District include School Business Administrator and Middle School Principal. Her career in education began as a social studies teacher at the middle-school level, followed her role as a middle-school remedial-reading teacher, focusing on content-area reading.

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Dr. Lisle Gates is a Professional Development Associate at The Leadership and Learning Center. Lisle's work with the Center is focused on the Data Driven Decision Making Process to include the creation of Data Teams to help drive the improvement of student achievement.

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Lillian A. Hawkins, Ph.D.

Lillian Hawkins is a Professional Development Associate with The Leadership and Learning Center. She is currently the vice president of the Princeton City School district school board located outside Cincinnati, Ohio; is a PRAXIS III assessor for entry year teachers in the state of Ohio; and an adjunct professor at Miami University in Oxford, Ohio, where she teaches classes for pre-service teachers in teacher leadership, educational psychology, learning theory, and human development. Lillian offers more than thirty years experience as an educator and principal. She has facilitated school improvement teams, strategic planning, and assessment development; worked as an administrative substitute at all levels K-12; conducted diversity training, facilitated community focus groups, and has coached and mentored new principals.

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Dr. Douglas B. Reeves

Dr. Douglas B. Reeves is the founder of The Leadership and Learning Center. He has worked with education, business, nonprofit, and government organizations throughout the world. The author of more than 20 books and many articles on leadership and organizational effectiveness, he has twice been named to the Harvard University Distinguished Authors Series. His monthly column on change leadership appears in Educational Leadership. Dr. Reeves was named the Brock International Laureate for his contributions to education. He also received the Distinguished Service Award from the National Association of Secondary School Principals and the Parents Choice Award for his writing for children and parents.

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Dr. Smith is a Professional Development Associate with the Leadership and Learning Center. Additionally, he recently served as an adjunct professor for the University of Colorado Denver within their Principal Preparation Program where he co-taught an 18-month, integrated, principal preparation cohort.

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Wayne Stubbs

Wayne Stubbs is a Professional Development Associate for The Leadership and Learning Center. He is a former band director who taught at the elementary, middle school, and high school levels. His administrative experiences include middle school assistant principal, Supervisor of Curriculum and Instruction, and he currently serves as Assistant Superintendent for Curriculum/Instruction in Indiana.

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Mary Vedra

Mary Vedra brings over 30 years of experience as an educator to her work as a Professional Development Associate for the Leadership and Learning Center. Mary has served as an educational leader in positions of increasing responsibility from elementary and secondary building principal to her current position with Englewood Schools, assistant to the superintendent as the Executive Director of Learning Services. Responsibilities in those positions have included: visionary leadership and strategic planning; instructional and administrative supervision; designing and delivering professional learning programs; reviewing and revising standards-aligned curricula and assessments; and, researching, developing, implementing, and managing innovative instructional programs. With a deep commitment and passion for educational reform initiatives, Mary has continually kept abreast of and incorporated the best of current research, promising practices and quality programs being implemented in education today.

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References

References

The Leadership and Learning Center's Implementation Audits™ are built upon a foundation on cutting-edge research. The following bibliography outlines our cornerstone Implementation Audit™ research texts as well as report references.

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Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Academie Lafayette	Based on its Title I share, this LEA would receive $73,464 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$18,366 X 4 years	$73,464
Adair Co. R-I	Based on its Title I share, this LEA would receive $45,733 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$11,433 X 4 years	$45,733
Adrian R-III	Based on its Title I share, this LEA would receive $60,821 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$15,205 X 4 years	$60,821
Advance R-IV	Based on its Title I share, this LEA would receive $65,723 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$16,431 X 4 years	$65,723
Affton 101	Based on its Title I share, this LEA would receive $215,483 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$53,871 X 4 years	$215,483
Albany R-III	Based on its Title I share, this LEA would receive $50,981 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$12,745 X 4 years	$50,981
Alton R-IV	Based on its Title I share, this LEA would receive $222,899 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$55,725 X 4 years	$222,899
Arcadia Valley R-II	Based on its Title I share, this LEA would receive $348,955 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$87,239 X 4 years	$348,955
Archie R-V	Based on its Title I share, this LEA would receive $32,397 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$8,099 X 4 years	$32,397
Ash Grove R-IV	Based on its Title I share, this LEA would receive $106,568 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$26,642 X 4 years	$106,568
Atlanta C-3	Based on its Title I share, this LEA would receive $49,722 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$12,430 X 4 years	$49,722
Ava R-I	Based on its Title I share, this LEA would receive $416,763 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$104,191 X 4 years	$416,763
Avenue City R-IX	Based on its Title I share, this LEA would receive $5,495 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$1,374 X 4 years	$5,495
Avilla R-XIII	Based on its Title I share, this LEA would receive $28,876 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$7,219 X 4 years	$28,876
B. Banneker Academy	Based on its Title I share, this LEA would receive $132,851 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$33,213 X 4 years	$132,851
Bakersfield R-IV	Based on its Title I share, this LEA would receive $111,707 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$27,927 X 4 years	$111,707
Ballard R-II	Based on its Title I share, this LEA would receive $25,611 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$6,403 X 4 years	$25,611
Bayless	Based on its Title I share, this LEA would receive $217,069 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$54,267 X 4 years	$217,069
Bell City R-II	Based on its Title I share, this LEA would receive $76,626 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$19,156 X 4 years	$76,626

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Belton 124	Based on its Title I share, this LEA would receive $465,524 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$116,381 X 4 years	$465,524
Bernie R-XIII	Based on its Title I share, this LEA would receive $122,093 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$30,523 X 4 years	$122,093
Bismarck R-V	Based on its Title I share, this LEA would receive $150,102 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$37,526 X 4 years	$150,102
Blackwater R-II	Based on its Title I share, this LEA would receive $25,145 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$6,286 X 4 years	$25,145
Bolivar R-I	Based on its Title I share, this LEA would receive $440,620 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$110,155 X 4 years	$440,620
Boonville R-I	Based on its Title I share, this LEA would receive $166,949 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$41,737 X 4 years	$166,949
Bradleyville R-I	Based on its Title I share, this LEA would receive $47,395 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$11,849 X 4 years	$47,395
Branson R-IV	Based on its Title I share, this LEA would receive $498,252 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$124,563 X 4 years	$498,252
Braymer C-4	Based on its Title I share, this LEA would receive $50,967 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$12,742 X 4 years	$50,967
Breckenridge R-I	Based on its Title I share, this LEA would receive $25,839 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$6,460 X 4 years	$25,839
Brookside Charter School	Based on its Title I share, this LEA would receive $169,268 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$42,317 X 4 years	$169,268
Bunker R-III	Based on its Title I share, this LEA would receive $84,984 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$21,246 X 4 years	$84,984
Butler R-V	Based on its Title I share, this LEA would receive $189,270 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$47,318 X 4 years	$189,270
Cabool R-IV	Based on its Title I share, this LEA would receive $208,632 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$52,158 X 4 years	$208,632
Callao C-8	Based on its Title I share, this LEA would receive $27,710 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$6,927 X 4 years	$27,710
Cameron R-I	Based on its Title I share, this LEA would receive $169,834 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$42,458 X 4 years	$169,834
Campbell R-II	Based on its Title I share, this LEA would receive $155,336 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$38,834 X 4 years	$155,336
Canton R-V	Based on its Title I share, this LEA would receive $106,043 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$26,511 X 4 years	$106,043
Cape Girardeau 63	Based on its Title I share, this LEA would receive $749,057 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$187,264 X 4 years	$749,057

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Carl Junction R-I	Based on its Title I share, this LEA would receive $327,573 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$81,893 X 4 years	$327,573
Carrollton R-VII	Based on its Title I share, this LEA would receive $163,868 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$40,967 X 4 years	$163,868
Carthage R-IX	Based on its Title I share, this LEA would receive $626,190 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$156,548 X 4 years	$626,190
Caruthersville 18	Based on its Title I share, this LEA would receive $686,127 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$171,532 X 4 years	$686,127
Cassville R-IV	Based on its Title I share, this LEA would receive $402,641 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$100,660 X 4 years	$402,641
Center 58	Based on its Title I share, this LEA would receive $492,708 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$123,177 X 4 years	$492,708
Central R-III	Based on its Title I share, this LEA would receive $453,072 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$113,268 X 4 years	$453,072
Chaffee R-II	Based on its Title I share, this LEA would receive $108,468 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$27,117 X 4 years	$108,468
Charleston R-I	Based on its Title I share, this LEA would receive $590,392 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$147,598 X 4 years	$590,392
Chilhowee R-IV	Based on its Title I share, this LEA would receive $29,433 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$7,358 X 4 years	$29,433
Chillicothe R-II	Based on its Title I share, this LEA would receive $260,572 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$65,143 X 4 years	$260,572
Clark Co. R-I	Based on its Title I share, this LEA would receive $198,339 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$49,585 X 4 years	$198,339
Clayton	Based on its Title I share, this LEA would receive $241,454 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$60,363 X 4 years	$241,454
Clearwater R-I	Based on its Title I share, this LEA would receive $452,039 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$113,010 X 4 years	$452,039
Clever R-V	Based on its Title I share, this LEA would receive $84,832 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$21,208 X 4 years	$84,832
Climax Springs R-IV	Based on its Title I share, this LEA would receive $76,243 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$19,061 X 4 years	$76,243
Clinton Co. R-III	Based on its Title I share, this LEA would receive $57,466 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$14,367 X 4 years	$57,466
Cole Co. R-I	Based on its Title I share, this LEA would receive $47,169 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$11,792 X 4 years	$47,169
Cole Co. R-V	Based on its Title I share, this LEA would receive $62,583 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$15,646 X 4 years	$62,583

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Columbia 93	Based on its Title I share, this LEA would receive $2,514,512 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$628,628 X 4 years	$2,514,512
Community R-VI	Based on its Title I share, this LEA would receive $32,285 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$8,071 X 4 years	$32,285
Concordia R-II	Based on its Title I share, this LEA would receive $59,683 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$14,921 X 4 years	$59,683
Cooter R-IV	Based on its Title I share, this LEA would receive $46,312 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$11,578 X 4 years	$46,312
Couch R-I	Based on its Title I share, this LEA would receive $81,852 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$20,463 X 4 years	$81,852
Cowgill R-VI	Based on its Title I share, this LEA would receive $12,140 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$3,035 X 4 years	$12,140
Craig R-III	Based on its Title I share, this LEA would receive $19,330 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$4,833 X 4 years	$19,330
Crocker R-II	Based on its Title I share, this LEA would receive $57,554 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$14,388 X 4 years	$57,554
Crystal City 47	Based on its Title I share, this LEA would receive $62,331 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$15,583 X 4 years	$62,331
Dadeville R-II	Based on its Title I share, this LEA would receive $29,096 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$7,274 X 4 years	$29,096
Dallas Co. R-I	Based on its Title I share, this LEA would receive $447,916 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$111,979 X 4 years	$447,916
Davis R-XII	Based on its Title I share, this LEA would receive $6,224 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$1,556 X 4 years	$6,224
Delta C-7	Based on its Title I share, this LEA would receive $68,669 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$17,167 X 4 years	$68,669
Desoto 73	Based on its Title I share, this LEA would receive $377,924 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$94,481 X 4 years	$377,924
Dexter R-XI	Based on its Title I share, this LEA would receive $315,433 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$78,858 X 4 years	$315,433
Diamond R-IV	Based on its Title I share, this LEA would receive $148,036 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$37,009 X 4 years	$148,036
Doniphan R-I	Based on its Title I share, this LEA would receive $502,313 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$125,578 X 4 years	$502,313
Dora R-III	Based on its Title I share, this LEA would receive $77,385 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$19,346 X 4 years	$77,385
Drexel R-IV	Based on its Title I share, this LEA would receive $34,634 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$8,659 X 4 years	$34,634

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Dunklin R-V	Based on its Title I share, this LEA would receive $211,705 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$52,926 X 4 years	$211,705
East Carter Co. R-II	Based on its Title I share, this LEA would receive $255,477 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$63,869 X 4 years	$255,477
East Lynne 40	Based on its Title I share, this LEA would receive $19,110 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$4,777 X 4 years	$19,110
East Newton Co. R-VI	Based on its Title I share, this LEA would receive $425,255 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$106,314 X 4 years	$425,255
East Prairie R-II	Based on its Title I share, this LEA would receive $350,822 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$87,706 X 4 years	$350,822
El Dorado Springs R-II	Based on its Title I share, this LEA would receive $336,161 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$84,040 X 4 years	$336,161
Eldon R-I	Based on its Title I share, this LEA would receive $384,384 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$96,096 X 4 years	$384,384
Eminence R-I	Based on its Title I share, this LEA would receive $93,562 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$23,390 X 4 years	$93,562
Excelsior Springs 40	Based on its Title I share, this LEA would receive $287,869 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$71,967 X 4 years	$287,869
Exeter R-VI	Based on its Title I share, this LEA would receive $61,587 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$15,397 X 4 years	$61,587
Fair Grove R-X	Based on its Title I share, this LEA would receive $128,856 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$32,214 X 4 years	$128,856
Fair Play R-II	Based on its Title I share, this LEA would receive $81,956 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$20,489 X 4 years	$81,956
Fairfax R-III	Based on its Title I share, this LEA would receive $23,774 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$5,943 X 4 years	$23,774
Farmington R-VII	Based on its Title I share, this LEA would receive $491,714 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$122,928 X 4 years	$491,714
Ferguson-Florissant R-II	Based on its Title I share, this LEA would receive $1,864,494 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$466,123 X 4 years	$1,864,494
Forsyth R-III	Based on its Title I share, this LEA would receive $238,037 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$59,509 X 4 years	$238,037
Fort Osage R-I	Based on its Title I share, this LEA would receive $411,529 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$102,882 X 4 years	$411,529
Fox C-6	Based on its Title I share, this LEA would receive $758,379 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$189,595 X 4 years	$758,379
Fredericktown R-I	Based on its Title I share, this LEA would receive $437,583 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$109,396 X 4 years	$437,583

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Ft. Zumwalt R-II	Based on its Title I share, this LEA would receive $249,960 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$62,490 X 4 years	$249,960
Fulton 58	Based on its Title I share, this LEA would receive $304,585 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$76,146 X 4 years	$304,585
Gainesville R-V	Based on its Title I share, this LEA would receive $216,277 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$54,069 X 4 years	$216,277
Gallatin R-V	Based on its Title I share, this LEA would receive $90,663 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$22,666 X 4 years	$90,663
Gasconade Co. R-II	Based on its Title I share, this LEA would receive $214,519 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$53,630 X 4 years	$214,519
Genesis School Inc.	Based on its Title I share, this LEA would receive $67,946 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$16,986 X 4 years	$67,946
Gideon 37	Based on its Title I share, this LEA would receive $110,706 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$27,676 X 4 years	$110,706
Gilliam C-4	Based on its Title I share, this LEA would receive $9,815 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$2,454 X 4 years	$9,815
Gilman City R-IV	Based on its Title I share, this LEA would receive $36,027 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$9,007 X 4 years	$36,027
Glenwood R-VIII	Based on its Title I share, this LEA would receive $67,656 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$16,914 X 4 years	$67,656
Golden City R-III	Based on its Title I share, this LEA would receive $64,161 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$16,040 X 4 years	$64,161
Gordon Parks Elem.	Based on its Title I share, this LEA would receive $112,749 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$28,187 X 4 years	$112,749
Gorin R-III	Based on its Title I share, this LEA would receive $33,486 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$8,371 X 4 years	$33,486
Grandview C-4	Based on its Title I share, this LEA would receive $768,957 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$192,239 X 4 years	$768,957
Grandview R-II	Based on its Title I share, this LEA would receive $95,527 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$23,882 X 4 years	$95,527
Green City R-I	Based on its Title I share, this LEA would receive $53,281 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$13,320 X 4 years	$53,281
Green Forest R-II	Based on its Title I share, this LEA would receive $84,713 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$21,178 X 4 years	$84,713
Greenfield R-IV	Based on its Title I share, this LEA would receive $118,812 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$29,703 X 4 years	$118,812
Greenville R-II	Based on its Title I share, this LEA would receive $238,245 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$59,561 X 4 years	$238,245

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Grundy Co. R-V	Based on its Title I share, this LEA would receive $27,917 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$6,979 X 4 years	$27,917
Hallsville R-IV	Based on its Title I share, this LEA would receive $117,768 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$29,442 X 4 years	$117,768
Hamilton R-II	Based on its Title I share, this LEA would receive $98,813 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$24,703 X 4 years	$98,813
Hardeman R-X	Based on its Title I share, this LEA would receive $619 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$155 X 4 years	$619
Harrisburg R-VIII	Based on its Title I share, this LEA would receive $70,060 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$17,515 X 4 years	$70,060
Hayti R-II	Based on its Title I share, this LEA would receive $546,231 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$136,558 X 4 years	$546,231
Hazelwood	Based on its Title I share, this LEA would receive $2,283,597 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$570,899 X 4 years	$2,283,597
Henry Co. R-I	Based on its Title I share, this LEA would receive $148,890 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$37,223 X 4 years	$148,890
Hermitage R-IV	Based on its Title I share, this LEA would receive $97,609 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$24,402 X 4 years	$97,609
Hickman Mills C-1	Based on its Title I share, this LEA would receive $1,750,999 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$437,750 X 4 years	$1,750,999
Higbee R-VIII	Based on its Title I share, this LEA would receive $34,691 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$8,673 X 4 years	$34,691
Holden R-III	Based on its Title I share, this LEA would receive $153,254 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$38,314 X 4 years	$153,254
Holliday C-2	Based on its Title I share, this LEA would receive $11,600 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$2,900 X 4 years	$11,600
Hollister R-V	Based on its Title I share, this LEA would receive $309,831 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$77,458 X 4 years	$309,831
Hudson R-IX	Based on its Title I share, this LEA would receive $5,960 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$1,490 X 4 years	$5,960
Humansville R-IV	Based on its Title I share, this LEA would receive $134,850 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$33,713 X 4 years	$134,850
Hume R-VIII	Based on its Title I share, this LEA would receive $22,318 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$5,579 X 4 years	$22,318
Iron Co. C-4	Based on its Title I share, this LEA would receive $95,433 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$23,858 X 4 years	$95,433
Jackson R-II	Based on its Title I share, this LEA would receive $316,865 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$79,216 X 4 years	$316,865

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Jamestown C-1	Based on its Title I share, this LEA would receive $26,034 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$6,509 X 4 years	$26,034
Jefferson C-123	Based on its Title I share, this LEA would receive $22,125 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$5,531 X 4 years	$22,125
Jennings	Based on its Title I share, this LEA would receive $1,140,228 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$285,057 X 4 years	$1,140,228
Joplin Schools	Based on its Title I share, this LEA would receive $1,637,948 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$409,487 X 4 years	$1,637,948
Junction Hill C-12	Based on its Title I share, this LEA would receive $63,137 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$15,784 X 4 years	$63,137
Kansas City 33	Based on its Title I share, this LEA would receive $8,198,002 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$2,049,500 X 4 years	$8,198,002
Kelso C-7	Based on its Title I share, this LEA would receive $12,241 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$3,060 X 4 years	$12,241
Keytesville R-III	Based on its Title I share, this LEA would receive $26,856 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$6,714 X 4 years	$26,856
Kingston 42	Based on its Title I share, this LEA would receive $10,676 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$2,669 X 4 years	$10,676
Kingston K-14	Based on its Title I share, this LEA would receive $239,674 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$59,919 X 4 years	$239,674
Kingsville R-I	Based on its Title I share, this LEA would receive $29,075 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$7,269 X 4 years	$29,075
Kipp: Endeavor Academy	Based on its Title I share, this LEA would receive $51,941 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$12,985 X 4 years	$51,941
Kirbyville R-VI	Based on its Title I share, this LEA would receive $57,880 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$14,470 X 4 years	$57,880
Kirksville R-III	Based on its Title I share, this LEA would receive $368,041 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$92,010 X 4 years	$368,041
Knob Noster R-VIII	Based on its Title I share, this LEA would receive $142,443 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$35,611 X 4 years	$142,443
Knox Co. R-I	Based on its Title I share, this LEA would receive $151,763 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$37,941 X 4 years	$151,763
La Plata R-II	Based on its Title I share, this LEA would receive $113,107 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$28,277 X 4 years	$113,107
Laclede Co. R-I	Based on its Title I share, this LEA would receive $160,807 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$40,202 X 4 years	$160,807
Ladue	Based on its Title I share, this LEA would receive $53,325 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$13,331 X 4 years	$53,325

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Lafayette Co. C-1	Based on its Title I share, this LEA would receive $102,880 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$25,720 X 4 years	$102,880
Lakeland R-III	Based on its Title I share, this LEA would receive $92,238 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$23,060 X 4 years	$92,238
Laquey R-V	Based on its Title I share, this LEA would receive $139,169 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$34,792 X 4 years	$139,169
Laredo R-VII	Based on its Title I share, this LEA would receive $18,261 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$4,565 X 4 years	$18,261
Lathrop R-II	Based on its Title I share, this LEA would receive $57,980 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$14,495 X 4 years	$57,980
Lawson R-XIV	Based on its Title I share, this LEA would receive $58,583 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$14,646 X 4 years	$58,583
Lebanon R-III	Based on its Title I share, this LEA would receive $647,302 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$161,825 X 4 years	$647,302
Lee A. Tolbert Com. Academy	Based on its Title I share, this LEA would receive $277,743 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$69,436 X 4 years	$277,743
Leopold R-III	Based on its Title I share, this LEA would receive $10,965 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$2,741 X 4 years	$10,965
Lesterville R-IV	Based on its Title I share, this LEA would receive $214,752 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$53,688 X 4 years	$214,752
Lewis Co. C-1	Based on its Title I share, this LEA would receive $146,808 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$36,702 X 4 years	$146,808
Lexington R-V	Based on its Title I share, this LEA would receive $178,510 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$44,627 X 4 years	$178,510
Liberal R-II	Based on its Title I share, this LEA would receive $93,312 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$23,328 X 4 years	$93,312
Liberty 53	Based on its Title I share, this LEA would receive $362,648 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$90,662 X 4 years	$362,648
Licking R-VIII	Based on its Title I share, this LEA would receive $210,557 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$52,639 X 4 years	$210,557
Lift For Life Academy	Based on its Title I share, this LEA would receive $264,924 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$66,231 X 4 years	$264,924
Livingston Co. R-III	Based on its Title I share, this LEA would receive $20,272 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$5,068 X 4 years	$20,272
Logan-Rogersville R-VIII	Based on its Title I share, this LEA would receive $144,882 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$36,220 X 4 years	$144,882
Lonedell R-XIV	Based on its Title I share, this LEA would receive $50,992 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$12,748 X 4 years	$50,992

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Macks Creek R-V	Based on its Title I share, this LEA would receive $54,079 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$13,520 X 4 years	$54,079
Macon Co. R-I	Based on its Title I share, this LEA would receive $153,024 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$38,256 X 4 years	$153,024
Macon Co. R-IV	Based on its Title I share, this LEA would receive $20,891 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$5,223 X 4 years	$20,891
Madison C-3	Based on its Title I share, this LEA would receive $43,695 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$10,924 X 4 years	$43,695
Malden R-I	Based on its Title I share, this LEA would receive $348,913 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$87,228 X 4 years	$348,913
Manes R-V	Based on its Title I share, this LEA would receive $44,913 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$11,228 X 4 years	$44,913
Mansfield R-IV	Based on its Title I share, this LEA would receive $232,505 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$58,126 X 4 years	$232,505
Maries Co. R-II	Based on its Title I share, this LEA would receive $110,238 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$27,560 X 4 years	$110,238
Marion C. Early R-V	Based on its Title I share, this LEA would receive $123,453 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$30,863 X 4 years	$123,453
Marionville R-IX	Based on its Title I share, this LEA would receive $112,740 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$28,185 X 4 years	$112,740
Marshfield R-I	Based on its Title I share, this LEA would receive $364,846 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$91,212 X 4 years	$364,846
McDonald Co. R-I	Based on its Title I share, this LEA would receive $1,037,405 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$259,351 X 4 years	$1,037,405
Meadow Heights R-II	Based on its Title I share, this LEA would receive $73,738 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$18,435 X 4 years	$73,738
Mehlville R-IX	Based on its Title I share, this LEA would receive $974,907 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$243,727 X 4 years	$974,907
Meramec Valley R-III	Based on its Title I share, this LEA would receive $474,505 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$118,626 X 4 years	$474,505
Miami R-I	Based on its Title I share, this LEA would receive $17,840 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$4,460 X 4 years	$17,840
Miami R-V	Based on its Title I share, this LEA would receive $52,970 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$13,242 X 4 years	$52,970
Middle Grove C-1	Based on its Title I share, this LEA would receive $95,293 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$23,823 X 4 years	$95,293
Milan C-2	Based on its Title I share, this LEA would receive $177,218 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$44,304 X 4 years	$177,218

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Miller Co. R-III	Based on its Title I share, this LEA would receive $36,984 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$9,246 X 4 years	$36,984
Miller R-II	Based on its Title I share, this LEA would receive $109,037 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$27,259 X 4 years	$109,037
Moberly	Based on its Title I share, this LEA would receive $497,436 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$124,359 X 4 years	$497,436
Monett R-I	Based on its Title I share, this LEA would receive $393,099 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$98,275 X 4 years	$393,099
Moniteau Co. R-I	Based on its Title I share, this LEA would receive $134,750 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$33,688 X 4 years	$134,750
Monroe City R-I	Based on its Title I share, this LEA would receive $69,248 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$17,312 X 4 years	$69,248
Montrose R-XIV	Based on its Title I share, this LEA would receive $18,747 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$4,687 X 4 years	$18,747
Mound City R-II	Based on its Title I share, this LEA would receive $40,428 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$10,107 X 4 years	$40,428
Mountain Grove R-III	Based on its Title I share, this LEA would receive $473,293 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$118,323 X 4 years	$473,293
Mountain View-Birch Tree R-III	Based on its Title I share, this LEA would receive $491,165 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$122,791 X 4 years	$491,165
Mt. Vernon R-V	Based on its Title I share, this LEA would receive $306,908 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$76,727 X 4 years	$306,908
Neosho R-V	Based on its Title I share, this LEA would receive $993,796 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$248,449 X 4 years	$993,796
Nevada R-V	Based on its Title I share, this LEA would receive $494,731 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$123,683 X 4 years	$494,731
New Franklin R-I	Based on its Title I share, this LEA would receive $73,410 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$18,352 X 4 years	$73,410
New Madrid Co. R-I	Based on its Title I share, this LEA would receive $664,940 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$166,235 X 4 years	$664,940
Newtown-Harris R-III	Based on its Title I share, this LEA would receive $16,878 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$4,220 X 4 years	$16,878
Niangua R-V	Based on its Title I share, this LEA would receive $55,016 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$13,754 X 4 years	$55,016
Nixa R-II	Based on its Title I share, this LEA would receive $430,774 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$107,693 X 4 years	$430,774
Nodaway-Holt R-VII	Based on its Title I share, this LEA would receive $47,175 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$11,794 X 4 years	$47,175

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
North Callaway Co. R-I	Based on its Title I share, this LEA would receive $227,741 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$56,935 X 4 years	$227,741
North Daviess R-III	Based on its Title I share, this LEA would receive $22,112 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$5,528 X 4 years	$22,112
North Kansas City 74	Based on its Title I share, this LEA would receive $1,493,125 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$373,281 X 4 years	$1,493,125
North Mercer Co. R-III	Based on its Title I share, this LEA would receive $45,414 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$11,354 X 4 years	$45,414
North Nodaway Co. R-VI	Based on its Title I share, this LEA would receive $22,510 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$5,628 X 4 years	$22,510
North Pemiscot Co. R-I	Based on its Title I share, this LEA would receive $139,938 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$34,984 X 4 years	$139,938
North Platte Co. R-I	Based on its Title I share, this LEA would receive $56,313 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$14,078 X 4 years	$56,313
North Shelby	Based on its Title I share, this LEA would receive $45,248 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$11,312 X 4 years	$45,248
North St. Francois Co. R-I	Based on its Title I share, this LEA would receive $435,353 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$108,838 X 4 years	$435,353
Northeast Nodaway Co. R-V	Based on its Title I share, this LEA would receive $19,858 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$4,965 X 4 years	$19,858
Northwest R-I	Based on its Title I share, this LEA would receive $629,330 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$157,333 X 4 years	$629,330
Oak Ridge R-VI	Based on its Title I share, this LEA would receive $36,005 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$9,001 X 4 years	$36,005
Odessa R-VII	Based on its Title I share, this LEA would receive $202,858 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$50,714 X 4 years	$202,858
Oran R-III	Based on its Title I share, this LEA would receive $54,571 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$13,643 X 4 years	$54,571
Orchard Farm R-V	Based on its Title I share, this LEA would receive $100,319 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$25,080 X 4 years	$100,319
Oregon-Howell R-III	Based on its Title I share, this LEA would receive $74,081 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$18,520 X 4 years	$74,081
Orrick R-XI	Based on its Title I share, this LEA would receive $33,076 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$8,269 X 4 years	$33,076
Osage Co. R-I	Based on its Title I share, this LEA would receive $29,854 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$7,464 X 4 years	$29,854
Osage Co. R-II	Based on its Title I share, this LEA would receive $62,565 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$15,641 X 4 years	$62,565

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Osage Co. R-III	Based on its Title I share, this LEA would receive $48,351 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$12,088 X 4 years	$48,351
Osborn R-O	Based on its Title I share, this LEA would receive $10,041 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$2,510 X 4 years	$10,041
Osceola	Based on its Title I share, this LEA would receive $116,783 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$29,196 X 4 years	$116,783
Otterville R-VI	Based on its Title I share, this LEA would receive $51,880 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$12,970 X 4 years	$51,880
Ozark R-VI	Based on its Title I share, this LEA would receive $365,418 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$91,354 X 4 years	$365,418
Paris R-II	Based on its Title I share, this LEA would receive $60,380 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$15,095 X 4 years	$60,380
Park Hill	Based on its Title I share, this LEA would receive $460,625 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$115,156 X 4 years	$460,625
Pattonsburg R-II	Based on its Title I share, this LEA would receive $35,219 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$8,805 X 4 years	$35,219
Pattonville R-III	Based on its Title I share, this LEA would receive $448,634 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$112,158 X 4 years	$448,634
Pemiscot Co. R-III	Based on its Title I share, this LEA would receive $33,743 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$8,436 X 4 years	$33,743
Perry Co. 32	Based on its Title I share, this LEA would receive $179,166 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$44,792 X 4 years	$179,166
Pettis Co. R-XII	Based on its Title I share, this LEA would receive $31,038 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$7,760 X 4 years	$31,038
Phelps Co. R-III	Based on its Title I share, this LEA would receive $38,646 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$9,661 X 4 years	$38,646
Pierce City R-VI	Based on its Title I share, this LEA would receive $173,389 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$43,347 X 4 years	$173,389
Plato R-V	Based on its Title I share, this LEA would receive $75,333 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$18,833 X 4 years	$75,333
Platte Co. R-III	Based on its Title I share, this LEA would receive $115,413 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$28,853 X 4 years	$115,413
Pleasant Hill R-III	Based on its Title I share, this LEA would receive $94,031 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$23,508 X 4 years	$94,031
Pleasant Hope R-VI	Based on its Title I share, this LEA would receive $256,484 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$64,121 X 4 years	$256,484
Pleasant View R-VI	Based on its Title I share, this LEA would receive $506 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$127 X 4 years	$506

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Polo R-VII	Based on its Title I share, this LEA would receive $29,692 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$7,423 X 4 years	$29,692
Portageville	Based on its Title I share, this LEA would receive $229,493 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$57,373 X 4 years	$229,493
Potosi R-III	Based on its Title I share, this LEA would receive $614,374 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$153,593 X 4 years	$614,374
Princeton R-V	Based on its Title I share, this LEA would receive $37,276 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$9,319 X 4 years	$37,276
Purdy R-II	Based on its Title I share, this LEA would receive $143,706 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$35,927 X 4 years	$143,706
Putnam Co. R-I	Based on its Title I share, this LEA would receive $144,264 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$36,066 X 4 years	$144,264
Puxico R-VIII	Based on its Title I share, this LEA would receive $157,262 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$39,315 X 4 years	$157,262
Raymondville R-VII	Based on its Title I share, this LEA would receive $56,652 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$14,163 X 4 years	$56,652
Raytown C-2	Based on its Title I share, this LEA would receive $980,852 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$245,213 X 4 years	$980,852
Reeds Spring R-IV	Based on its Title I share, this LEA would receive $378,604 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$94,651 X 4 years	$378,604
Renick R-V	Based on its Title I share, this LEA would receive $25,792 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$6,448 X 4 years	$25,792
Republic R-III	Based on its Title I share, this LEA would receive $340,730 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$85,183 X 4 years	$340,730
Richards R-V	Based on its Title I share, this LEA would receive $150,695 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$37,674 X 4 years	$150,695
Richland R-I	Based on its Title I share, this LEA would receive $55,999 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$14,000 X 4 years	$55,999
Richland R-IV	Based on its Title I share, this LEA would receive $136,527 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$34,132 X 4 years	$136,527
Richmond R-XVI	Based on its Title I share, this LEA would receive $178,297 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$44,574 X 4 years	$178,297
Richwoods R-VII	Based on its Title I share, this LEA would receive $42,951 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$10,738 X 4 years	$42,951
Risco R-II	Based on its Title I share, this LEA would receive $35,005 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$8,751 X 4 years	$35,005
Ritenour	Based on its Title I share, this LEA would receive $1,014,104 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$253,526 X 4 years	$1,014,104

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Rock Port R-II	Based on its Title I share, this LEA would receive $38,676 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$9,669 X 4 years	$38,676
Rolla 31	Based on its Title I share, this LEA would receive $695,703 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$173,926 X 4 years	$695,703
Salem R-80	Based on its Title I share, this LEA would receive $242,169 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$60,542 X 4 years	$242,169
Salisbury R-IV	Based on its Title I share, this LEA would receive $41,336 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$10,334 X 4 years	$41,336
Santa Fe R-X	Based on its Title I share, this LEA would receive $29,591 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$7,398 X 4 years	$29,591
Sarcoxie R-II	Based on its Title I share, this LEA would receive $223,930 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$55,982 X 4 years	$223,930
Savannah R-III	Based on its Title I share, this LEA would receive $156,117 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$39,029 X 4 years	$156,117
School Of The Osage	Based on its Title I share, this LEA would receive $398,776 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$99,694 X 4 years	$398,776
Schuyler Co. R-I	Based on its Title I share, this LEA would receive $153,416 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$38,354 X 4 years	$153,416
Scotland Co. R-I	Based on its Title I share, this LEA would receive $105,054 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$26,263 X 4 years	$105,054
Scott City R-I	Based on its Title I share, this LEA would receive $171,727 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$42,932 X 4 years	$171,727
Scuola Vita Nuova	Based on its Title I share, this LEA would receive $107,682 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$26,920 X 4 years	$107,682
Senath-Hornersville C-8	Based on its Title I share, this LEA would receive $216,300 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$54,075 X 4 years	$216,300
Seneca R-VII	Based on its Title I share, this LEA would receive $254,788 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$63,697 X 4 years	$254,788
Seymour R-II	Based on its Title I share, this LEA would receive $671,160 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$167,790 X 4 years	$671,160
Shelby Co. R-IV	Based on its Title I share, this LEA would receive $184,281 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$46,070 X 4 years	$184,281
Sheldon R-VIII	Based on its Title I share, this LEA would receive $36,678 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$9,169 X 4 years	$36,678
Skyline R-II	Based on its Title I share, this LEA would receive $43,821 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$10,955 X 4 years	$43,821
Slater	Based on its Title I share, this LEA would receive $74,790 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$18,698 X 4 years	$74,790

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Smithville R-II	Based on its Title I share, this LEA would receive $55,413 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$13,853 X 4 years	$55,413
South Callaway Co. R-II	Based on its Title I share, this LEA would receive $72,128 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$18,032 X 4 years	$72,128
South Harrison Co. R-II	Based on its Title I share, this LEA would receive $138,153 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$34,538 X 4 years	$138,153
South Holt Co. R-I	Based on its Title I share, this LEA would receive $24,706 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$6,177 X 4 years	$24,706
Southern Reynolds Co. R-II	Based on its Title I share, this LEA would receive $157,057 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$39,264 X 4 years	$157,057
Southland C-9	Based on its Title I share, this LEA would receive $132,224 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$33,056 X 4 years	$132,224
Southwest R-V	Based on its Title I share, this LEA would receive $210,099 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$52,525 X 4 years	$210,099
Specl. Sch. Dst. St. Louis Co.	Based on its Title I share, this LEA would receive $293,035 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$73,259 X 4 years	$293,035
Spokane R-VII	Based on its Title I share, this LEA would receive $102,928 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$25,732 X 4 years	$102,928
Spring Bluff R-XV	Based on its Title I share, this LEA would receive $14,399 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$3,600 X 4 years	$14,399
Springfield R-XII	Based on its Title I share, this LEA would receive $5,249,616 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$1,312,404 X 4 years	$5,249,616
St. Charles R-VI	Based on its Title I share, this LEA would receive $491,691 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$122,923 X 4 years	$491,691
St. Elizabeth R-IV	Based on its Title I share, this LEA would receive $14,240 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$3,560 X 4 years	$14,240
St. James R-I	Based on its Title I share, this LEA would receive $573,868 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$143,467 X 4 years	$573,868
St. Joseph	Based on its Title I share, this LEA would receive $2,010,297 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$502,574 X 4 years	$2,010,297
St. Louis Charter School	Based on its Title I share, this LEA would receive $501,644 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$125,411 X 4 years	$501,644
St. Louis City	Based on its Title I share, this LEA would receive $14,630,846 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$3,657,712 X 4 years	$14,630,846
Stanberry R-II	Based on its Title I share, this LEA would receive $47,924 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$11,981 X 4 years	$47,924
Ste. Genevieve Co. R-II	Based on its Title I share, this LEA would receive $194,539 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$48,635 X 4 years	$194,539

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Steelville R-III	Based on its Title I share, this LEA would receive $229,696 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$57,424 X 4 years	$229,696
Stewartsville C-2	Based on its Title I share, this LEA would receive $12,195 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$3,049 X 4 years	$12,195
Stockton R-I	Based on its Title I share, this LEA would receive $251,409 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$62,852 X 4 years	$251,409
Strafford R-VI	Based on its Title I share, this LEA would receive $137,918 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$34,479 X 4 years	$137,918
Strasburg C-3	Based on its Title I share, this LEA would receive $12,243 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$3,061 X 4 years	$12,243
Sturgeon R-V	Based on its Title I share, this LEA would receive $130,976 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$32,744 X 4 years	$130,976
Success R-VI	Based on its Title I share, this LEA would receive $41,727 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$10,432 X 4 years	$41,727
Sullivan	Based on its Title I share, this LEA would receive $256,436 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$64,109 X 4 years	$256,436
Summersville R-II	Based on its Title I share, this LEA would receive $181,754 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$45,438 X 4 years	$181,754
Sweet Springs R-VII	Based on its Title I share, this LEA would receive $62,783 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$15,696 X 4 years	$62,783
Tina-Avalon R-II	Based on its Title I share, this LEA would receive $20,485 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$5,121 X 4 years	$20,485
Tipton R-VI	Based on its Title I share, this LEA would receive $72,317 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$18,079 X 4 years	$72,317
Trenton R-IX	Based on its Title I share, this LEA would receive $221,952 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$55,488 X 4 years	$221,952
Union R-XI	Based on its Title I share, this LEA would receive $196,638 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$49,159 X 4 years	$196,638
Union Star R-II	Based on its Title I share, this LEA would receive $13,020 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$3,255 X 4 years	$13,020
University City	Based on its Title I share, this LEA would receive $801,647 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$200,412 X 4 years	$801,647
Urban Com. Leadership Academy	Based on its Title I share, this LEA would receive $88,680 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$22,170 X 4 years	$88,680
Van Buren R-I	Based on its Title I share, this LEA would receive $187,353 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$46,838 X 4 years	$187,353
Van-Far R-I	Based on its Title I share, this LEA would receive $126,704 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$31,676 X 4 years	$126,704

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Verona R-VII	Based on its Title I share, this LEA would receive $175,536 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$43,884 X 4 years	$175,536
Warrensburg R-VI	Based on its Title I share, this LEA would receive $363,763 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$90,941 X 4 years	$363,763
Washington	Based on its Title I share, this LEA would receive $262,730 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$65,682 X 4 years	$262,730
Waynesville R-VI	Based on its Title I share, this LEA would receive $385,961 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$96,490 X 4 years	$385,961
Weaubleau R-III	Based on its Title I share, this LEA would receive $176,250 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$44,062 X 4 years	$176,250
Webb City R-VII	Based on its Title I share, this LEA would receive $625,506 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$156,377 X 4 years	$625,506
Webster Groves	Based on its Title I share, this LEA would receive $345,141 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$86,285 X 4 years	$345,141
Wellington-Napoleon R-IX	Based on its Title I share, this LEA would receive $22,827 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$5,707 X 4 years	$22,827
Wellsville Middletown R-I	Based on its Title I share, this LEA would receive $130,072 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$32,518 X 4 years	$130,072
Wentzville R-IV	Based on its Title I share, this LEA would receive $443,979 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$110,995 X 4 years	$443,979
West St. Francois Co. R-IV	Based on its Title I share, this LEA would receive $237,211 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$59,303 X 4 years	$237,211
Westran R-I	Based on its Title I share, this LEA would receive $140,307 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$35,077 X 4 years	$140,307
Westview C-6	Based on its Title I share, this LEA would receive $41,939 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$10,485 X 4 years	$41,939
Wheatland R-II	Based on its Title I share, this LEA would receive $101,101 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$25,275 X 4 years	$101,101
Wheaton R-III	Based on its Title I share, this LEA would receive $101,284 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$25,321 X 4 years	$101,284
Willard R-II	Based on its Title I share, this LEA would receive $399,663 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$99,916 X 4 years	$399,663
Willow Springs R-IV	Based on its Title I share, this LEA would receive $421,436 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$105,359 X 4 years	$421,436
Winfield R-IV	Based on its Title I share, this LEA would receive $159,966 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$39,992 X 4 years	$159,966
Winona R-III	Based on its Title I share, this LEA would receive $242,257 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$60,564 X 4 years	$242,257

Funding Subgranted to Participating LEAs (50% of Total Grant)

LEA	Rationale	Supplemental Subgrant Cost	Total
Winston R-VI	Based on its Title I share, this LEA would receive $21,270 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$5,318 X 4 years	$21,270
Woodland R-IV	Based on its Title I share, this LEA would receive $188,732 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$47,183 X 4 years	$188,732
Wright City R-II	Based on its Title I share, this LEA would receive $136,030 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$34,008 X 4 years	$136,030
Zalma R-V	Based on its Title I share, this LEA would receive $85,398 of the State's Race to the Top grant; this subgrant from the State's 50% increases the LEA's funding to allow it to fully participate in all State plans.	$21,349 X 4 years	$85,398

Last Name	First Name	Title	Affilitation	RSVP	Group
Ableidinger	Joe	CONSULTANT		Yes	
Acsenvil	Alex	Asst. Director, Technology CO-CHAIR	Independence School District	Yes	
Adams	Kelvin	Superintendent of Schools	St. Louis City School District	Yes	
Agnew-Talley	Jo	Dean of Education	Park University	Yes	
Agrawal	Ashok	Dean of Math, Science Engineering & Technology	St. Louis Community College at Florissant Valley	Yes	
Anderson	Jeremy	CONSULTANT		Yes	
Anderson	Maggie	Superintendent of Schools	Knob Noster R-VIII	Yes	
Armstrong	Mary	President	Local 420 St. Louis Teachers Union	Yes	
Baier	Scott	Executive Director	Teach for America	Yes	
Baldwin	Beccy	RPDC Director	Northwest RPDC	Yes	
Bates	Jeanne	Vice President	Hall Family Foundation	Yes	
Beckwith	Lynn	Retired Superintendent		Yes	
Beglau	Monica	Director	eMINTS National Center	Yes	
Bennett	Linda	Interim Dean of Education	University of Missouri-Columbia	Yes	
Birks	Elizabeth D.	Governor's Faith Based Outreach Program Liaison (Kansas City)		Yes	
Blaine	Julie	RPDC Director	Central RPDC	Yes	
Blanchett	Wanda	Dean, School of Education	University of Missouri-Kansas City	Yes	
Kite	Terry	Teacher Education	Jefferson College	Yes	
Briggs	Regenia	Director	Hillyard Technical Center	Yes	
Tanner	Cindy	Teacher Education	Three Rivers Community College	Yes	
Bruton	Mary	Workforce Analysis Manager	Dept. of Economic Development	Yes	
Haun	Dwight	Chair of Education	Southwest Baptist University	Yes	
Burnett	Tom	Manager, Strategic Initiatives	Apple	Yes	
Byers	Chip	MOREnet		Yes	
Caccamo	Jim	Great Teachers and Administrators		Yes	
Camoriano	Jim	Missouri Government, Media, & Community Affairs	State Farm Insurance	Yes	
Carruth	Gayden	Executive Director	Cooperating School District of Kansas City	Yes	
Chapel	Cynthia	Chair of Education	Lincoln University	Yes	
Chase	Phyllis	Assistant Superintendent CO-CHAIR	North Kansas City 74 School District	Yes	
Churchwell	Eric	Secretary	Mo. Association of School Administrators	Yes	
Ciafullo	Scott	President	American Federation of Teachers	Yes	

Last Name	First Name	Title	Affilitation	RSVP	Group
Clancy-May	Maureen	Superintendent of Schools	Bayless School District	Yes	
Clark	Maxine	Founder and Chief Executive Bear	Build a Bear	Yes	
Cochran	Peggy	CO-CHAIR		Yes	
Condren	Tammy	NAESP Representative	Marion C. Early Elementary School	Yes	
Copeland	Sherry	RPDC Director	Missouri Western RPDC	Yes	
Corcoran	MaryJo	Director of Parent Education	Ladue School District	Yes	
Craig	Chris	Director of Education	Drury University	Yes	
Doel	Kelly	Coordinator of Certification	Drury University	Yes	
Cruz	Carolina	Student	Hazelwood School District	Yes	
Allen	Sandra	Missouri Senate		Yes	
Cutbirth	Suzy	RPDC Director	Southwest RPDC		
Cutts	Justin	Student	Hazelwood School District	Yes	
Davis	Darl	RPDC Director	Northeast RPDC	Yes	
Days	Rita	Missouri Senate		Yes	
de Loyola	Shawn	Executive Director	Missouri Protection and Advocacy		
Deggendorf	Mike	Sr. Vice President, Delivery	Great Plains Energy		
Denney	Joel		Missouri School Boards Association	Yes	
Van Tuinen	Patt)	Director	Department of Health and Senior Services	Yes	
Dorsey	Dennis	RPDC Director	St. Louis RPDC	Yes	
Elder	Bill		OSEDA	Yes	
Evans	Laura	Strategist	Cerner Corporation	Yes	
Faulkenberry	John	MASSP President	Lee's Summit High School	Yes	
Faulkner	Intisar	Student	Hazelwood School District	Yes	
Felmlee	Chris	Superintendent of Schools	Van-Far R-I School District	Yes	
Flowers	Clinton	Division of Workforce Development	Division of Workforce Developoment	Yes	
Franklin	Ken	Governor's Faith Based Outreach Program Liaison (St. Louis)		Yes	
Freeman	William	Dean of Education	Fontbonne University	Yes	
Fuemmeler	Cheri	RPDC Director	Southeast RPDC	Yes	
Fulton	Mike	Superintendent of Schools	Pattonville R-III School District	Yes	
Gaal	John	Director of Training & Workforce Development	The Carpenters' District Council of Greater St. Louis	Yes	
Galland	Cathy	RPDC Director	Southern RPDC	Yes	
Gallimore	Tim	Assistant Commissioner/Academic	Department of Higher Education	Yes	
Gardner	Donna	Chair of Education/MACCE	William Jewell College	Yes	

Last Name	First Name	Title	Affilitation	RSVP	Group
Gibbons	Liz	CharacterPlus	Cooperating School Districts	Yes	
Gray Smith	Linda	Superintendent of Schools	Chillicothe R-II School District	Yes	
Gronniger	Richard	Human Resources Manager	Altec Industries, Inc.	Yes	
Guinther	Chris	Mo. National Education Association	Mo. National Education Association	Yes	
Hamberg	Linda	Teacher Education	St. Louis Community College-Florissant Valley	Yes	
Hammer	Ann	Director of Education	Culver-Stockton College	Yes	
Hardy	Colleen	Chair of Education	Evangel University	Yes	
Hassel	Bryan	CONSULTANT		Yes	
Haugen	Sue	TOY Finalist	Jefferson City School District	Yes	
Hausfather	Sam	Dean of Education	Maryville University	Yes	
Helms	Ron	MASSP Past President	Lindbergh High School	Yes	
Hessee	Pam	TOY Finalist		Yes	
Hollingsworth	Debra	Vice President-External Affairs	AT&T Missouri	Yes	
Knauer	Regina	Director	Department of Conservation	Yes	
Hull	Angie	Executive Director	Coordinating Board for Early Childhood	Yes	
Huxel	Mary Beth	Curriculum & Instruction	East Central College	Yes	
Jackson	Wendy	President	Missouri PTA	Yes	
Jackson	Kristin	TOY Finalist	Lee's Summit R-VII School District	Yes	
Jarrett	Ann	Mo. National Education Association	Mo. National Education Association	Yes	
Keelin	Byron	Executive Director	Mo. Chamber of Commerce	Yes	
Riegel	Nicole	Director of Program Development	Kansas City Life Sciences Institute, Inc.	Yes	
Kinder	Paul	President	Mo. Association of School Administrators	Yes	
King	Jim	Executive Director	Mo. Association of Secondary School Principals	Yes	
King	Kent	Executive Director	Missouri State Teachers Association	Yes	
Knodell	Joe	Executive Director	Missouri Education Reform Council	Yes	
Kostner	Linda	Interim Director	Kansas City RPDC	Yes	
Kowal	Julie	CONSULTANT		Yes	
Kronley	Robert	CONSULTANT		Yes	
Kurtz	Roger	Executive Director	Mo. Association of School Administrators	Yes	
Lair	Mike	Mo. House of Representatives		Yes	
Lane	Valerie	Center for Human Services-Children's	Coordinating Board for Early Childhood	Yes	
Lankford	David	Vice President	Mo. Chamber of Commerce-Education	Yes	

Last Name	First Name	Title	Affilitation	RSVP	Group
			Foundation		
Lewis	John	RPDC Director	South Central RPDC	Yes	
Lineberry	David		Missouri School Boards Association	Yes	
Lombardi	George	Director	Department of Corrections	Yes	
Loyacono	Laura	Project Lead the Way (per Margo)	Project Lead the Way	Yes	
Luna-Wolf	Mary Beth	CONSULTANT		Yes	
Lupardus	Carol	Teacher Education	St. Louis Community College-Wildwood		
Maier	Randy	Community & Education Relations	Integrated Defense Systems The Boeing Company	Yes	
Malito	Robert	Superintendent of Schools	Parkway C-2 School District	Yes	
Malsick	Rick	CONSULTANT		Yes	
Martin	John	CO-CHAIR		Yes	
Martz	Matt	MAESP Past President	Skaith Elementary School	Yes	
Masengale	Emily	TOY Finalist		Yes	
May	Vicki	Assistant Dean	Washington University	Yes	
Mayfield	Wayne	Standards and Assessments	University of Missouri	Yes	
McMahon	Ann		Washington University	Yes	
Middleton	Michael	Deputy Chancellor	University of Missouri-Columbia	Yes	
Miller	Ned	Interim RPDC Director	Heart of Missouri RPDC	Yes	
Minne	Sam	Department of Education	Truman State University	Yes	
Mitko	Susanne	TOY		Yes	
Noe	Margaret	Dean of Education	Southeast Missouri State University	Yes	
Chastain	Lesa	Chair of Education	Baptist Bible College	Yes	
Palm	Joseph	Chief	Department of Health & Senior Services Division of Community & Public Health	Yes	
Pantleo	Mike	Director	Fort Osage Career & Technical Center	Yes	
Parham	Douglas	Community Church of God			
Parshall	Tim		Assessment Resource Center	Yes	
Peters	Faye	Executive Director	Mo. Association of Elementary School Principals	Yes	
Petersen	Cheryl	MAESP Secretary-Treasurer	Cole Camp Elementary School	Yes	
Phillips	Richard	CO-CHAIR	Missouri Student Success Network	Yes	
Piper	Mary	Interim Superintendent	Hazelwood School District	Yes	
Porr	Richard	Chair of Education	Missouri Western State University	Yes	
Good	Glenn	Interim Dean of College of Education	University of Missouri-Columbia	Yes	
Preis	Stacey	Executive Director	Joint Committee on Education	Yes	

Last Name	First Name	Title	Affilitation	RSVP	Group
Price	Deborah	Deputy Director of Boards and Commissions	Office of the Governor	Yes	
Pruitt	Tracy	TOY Finalist	Hickman Mills C-1 School District	Yes	
Quiriconi	Margo	Director, Research & Policy for Education CONSULTANT	Kauffman Foundation	Yes	
Randol	Melissa		Missouri School Boards Association	Yes	
Hime	Nicole	TOY Finalist		Yes	
Reeves	Doug	CONSULTANT		Yes	
Robb	Vickie	MAESP Retired Principals Rep		Yes	
Roberts	Laurie	CONSULTANT		Yes	
Ruhl	Max	Dean of Education	Northwest Missouri State University	Yes	
Schad	Rodney	Mo. House of Representatives		Yes	
Finnegan	Judy	Director	Department of Mental Health	Yes	
Schattgen	Sharon		OSEDA/Columbia School District	Yes	
Scherer	Mary Beth	Treasurer	Mo. Association of School Administrators	Yes	
Baber	Susan	Dean of Education	University of Missouri-St. Louis	Yes	
Scott	L. Carol	Executive Director	Missouri Child Care Resource & Referral Network	Yes	
Shannon	Cheri	Executive Director	Mo. Charter Public Schools Association	Yes	
Simmons	Ben	Executive Director	Mo. National Education Association	Yes	
Sireno	Lisa		Assessment Resource Center	Yes	
Smith	Alvin	St. Paul AME Church		Yes	
Smith	Melody	Superintendent of Schools	St. Joseph School District	Yes	
St. Joe	Student	Name TBA		Yes	
St. Joe	Student	Name TBA		Yes	
Kintzel	Jeremy	Commissioner	Department of Higher Education	Yes	
Stepleton	Sue	President/CEO	Parents as Teachers National Center	Yes	
Stuart	Diana	Teacher Education	Mineral Area College	Yes	
Swan	Kathy	President	JCS/Tel-Link	Yes	
Tatman	Dinah	New Sunnymount		Yes	
Taylor, Jr.	Curtis	Student	Hazelwood School District	Yes	
Templeton	Mark	Director	Department of Natural Resources	No	
Teran	Ralph	Superintendent of Schools CO-CHAIR	Grandview C-4 School District	Yes	
Thaman	Douglas	Director of Professional Services	National Association of Charter School Authorizers	Yes	

Last Name	First Name	Title	Affilitation	RSVP	Group
Thiele	Nick	Superintendent of Schools	Bloomfield R-XIV School District	Yes	
Thomson	Mike	Mo. House of Representatives		Yes	
Thornburg	Kathy	Professor and Director	Center for Family Policy & Research	Yes	
Thruston	Cheryl	Director, Dislocated Worker Program	Missouri AFL-CIO	Yes	
Thurwalker	Zac	TOY Finalist		Yes	
Tilson	VeAnn	Past President	Mo. Association of School Administrators	Yes	
Tobias	Grayling	Asst. Superintendent	Hazelwood School District	Yes	
Urkevich	John	Executive Director	Cooperating School District of St. Louis	Yes	
VanNoy	Cheryl	Assistant Superintendent CO-CHAIR	Hazelwood School District	Yes	
Wahby	Robbyn	Mayoral Research	Office of Mayor Francis Slay	Yes	
Wallace	Maynard	Mo. House of Representatives		Yes	
Wally	Susan	President/CEO	PREP-KC	Yes	
Ward	Carter	Executive Director	Missouri School Boards Association	Yes	
Watson	Jerry	Interim Superintendent	Farmington R-VII School District	Yes	
Wicks	Ray	Chair	Special Education Advisory Panel	Yes	
Wilkerson	Bill	Executive Director	Reach Out St. Louis!	Yes	
Williams	Marge	Superintendent of Schools	Hickman Mills C-1 School District	Yes	
Williams	Margaret	TOY		Yes	
Williams	Nancy “Suzie)	Blue Eye School District		Yes	
Williams	Vic	Superintendent of Schools	Fairview R-XI School District	Yes	
Wilson	George	Executive Director	Missouri Council of Administrators of Special Education	Yes	

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Last Name	First Name	Group
Nicastro	Chris L.	
Coffman	Robin	
Morris	Jim	
Van Zandt	Mark	
Brown	Charles	
Johnson	Stan	
Quinn	Tom	
Atkins Lieberman	Heidi	
Muenks	Robin	
Vandeven	Margie	
Leigh Ann	Grant Engle	
Castleman	Amber	
Hoge	Sharon	
Rosenkoetter	Rusty	
Strand	Jocelyn	
Cindy	Hollis	
Andrea	Wood	
Becky	Odneal	
Larry	Flakne	
David	Liechti	
Sybl	Slaughter	
Deborah	Demien	
Russell	Thompson	
Archie	Rev. Stan	
Ponder	Mike	
James	Diana	
Wright	Paul	
Joyce	Cowell	
Denise	Roach	
Barb	LePage	
Freida	Krogstad	
Kelli	Dickey	
Lina	Browner	
Tammy	Allee	
Jackie	Wieberg	

Robin	Barbour	

Missouri Race to the Top

JEFFERSON CITY NOVEMBER 23, 2009

Winning the Race to the Top

Stakeholders Forum

9:30 a.m.	**WELCOME & INTRODUCTIONS**	Governor Jay Nixon Chris L. Nicastro, Ph.D. *Missouri Commissioner of Education* David Liechti, President *State Board of Education*
10:00 a.m.	**RACE TO THE TOP: WHAT IT WILL TAKE**	Ryan Reyna, Policy Analyst *National Governors Association*
10:50 a.m.	**OPPORTUNITIES FOR MISSOURI**	Doug Reeves, Founder *The Learning and Leadership Center*
11:50 a.m.	**ORGANIZING THE TEAMS**	Commissioner Nicastro

12:00 p.m. **TEAM MEETINGS**

- Teams lunch together
- Break-out in small groups to address these questions:
  1. What are our strengths in this assurance area?
  2. What are innovative ideas in this assurance area that should be included in the proposal?
  3. What else do we need to know or do?
- Discuss and determine a few compelling innovations that should be pursued in the RT3 proposal
- Each team reconvenes; group leaders report back to entire team

3:00 p.m. **GENERAL SESSION: TEAM REPORTS**

- Brief (10-minute) reports from team co-chairs
- What are the compelling innovations (up to three for each group) that Missouri should pursue in its RT3 proposal and beyond?
- Next steps?

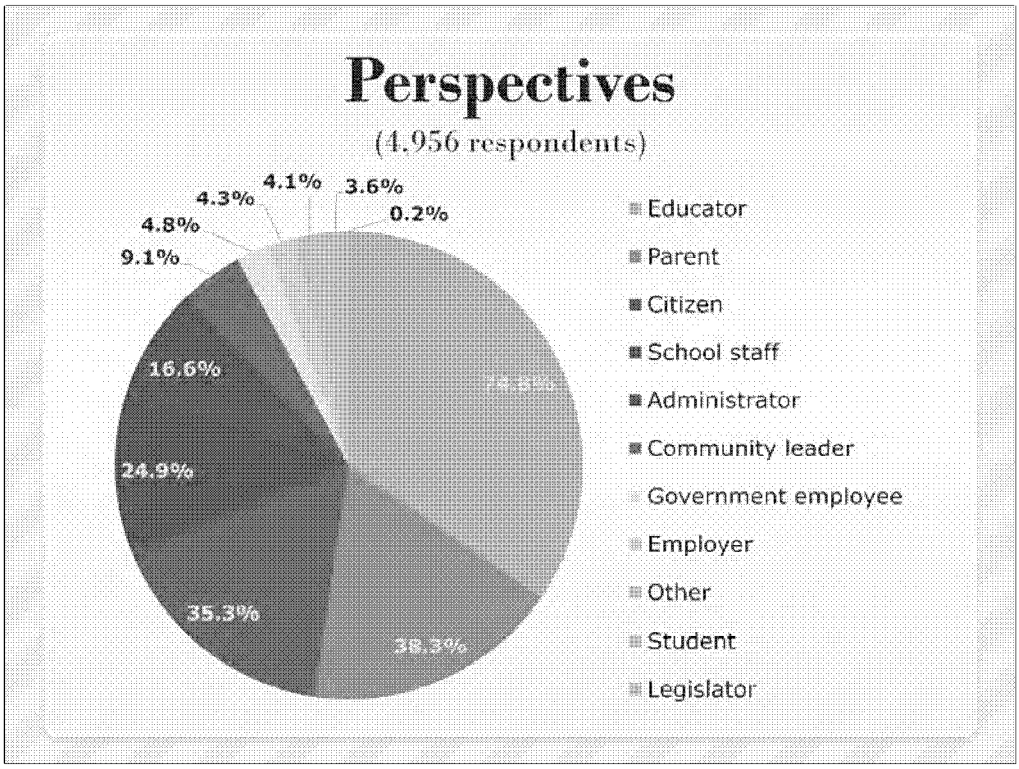
4:00 p.m. **ADJOURN**

CONVENED BY THE MISSOURI DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION

As part of the state's proposal development team to gathering stakeholder input on education reform priorities, DESE collected feedback from stakeholders statewide through an online survey from December 15 to December 23, 2009. We received nearly 5,000 responses.

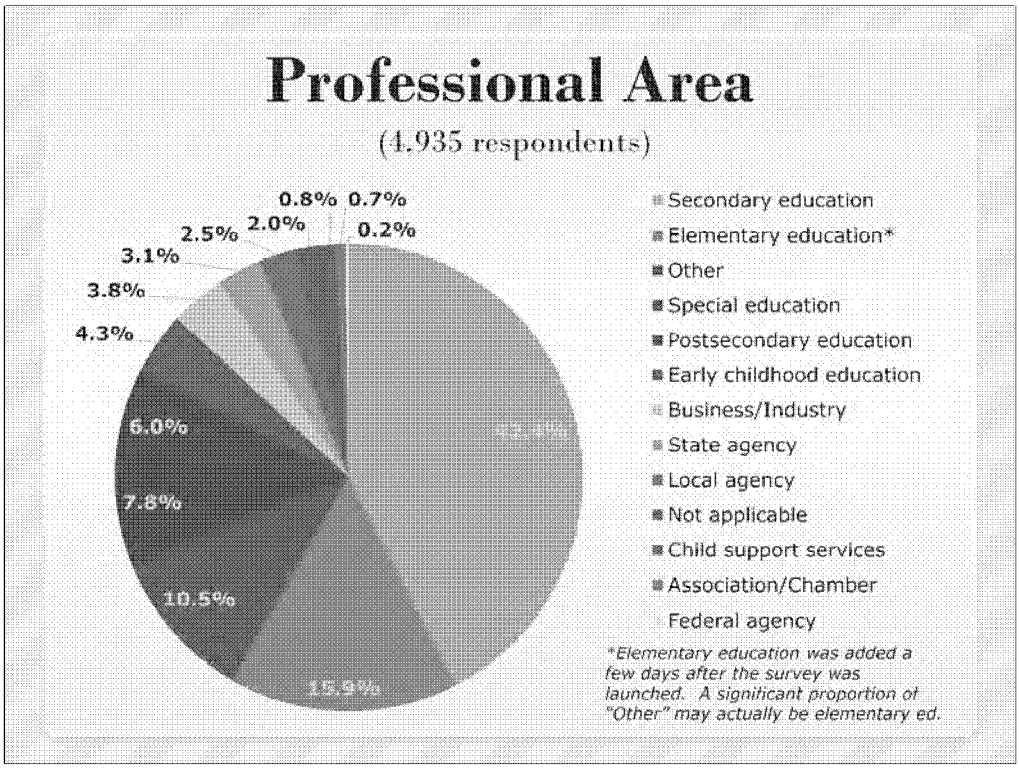
The survey was organized around the four key themes which states must address in their federal Race to the Top application:
1). Academic Standards and Assessments;
2). Data Systems That Support Instruction;
3). Recruiting and Retaining Great Teachers and Leaders; and
4). Turning Around Low-performing Schools.

DESE's survey concluded with four questions about statewide systemic support, plus a question about data collection and research. Throughout the survey, respondents had opportunities to add their suggestions and comments. This presentation summarizes the responses received to the statewide stakeholder survey.



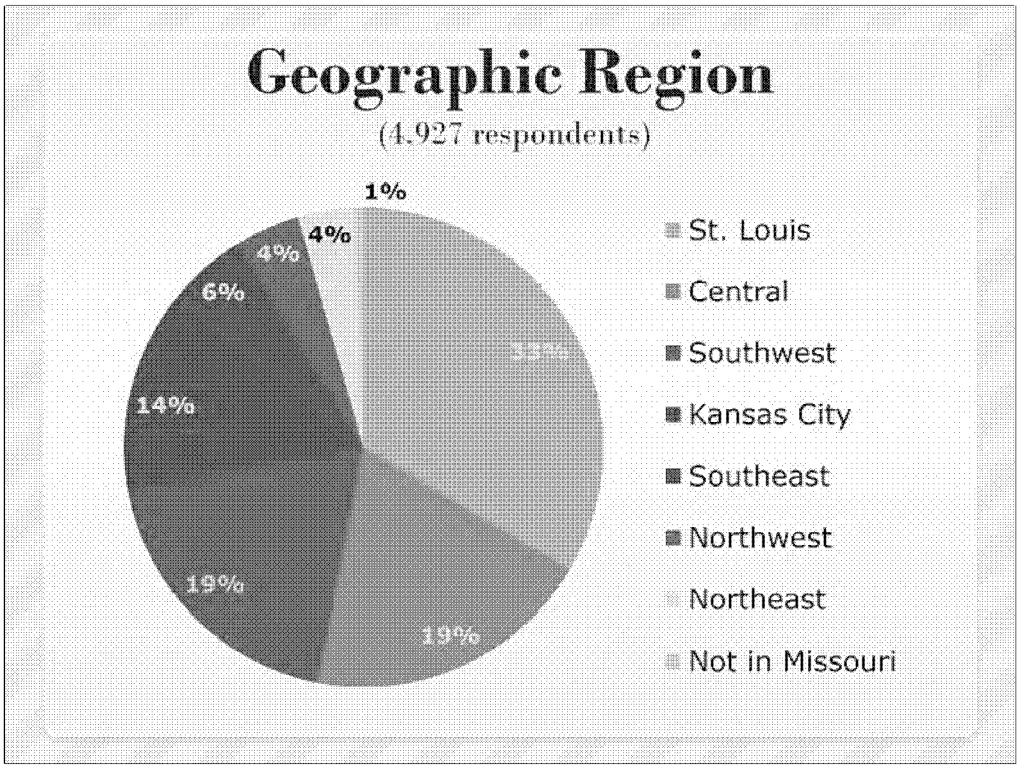
First, we collected some demographic information, so we can understand issues based on various points-of-view of the nearly 5,000 respondents.

In the first question, respondents were asked to indicate their perspective(s) as they began the survey. Note that respondents could mark as many categories as were applicable. For instance, an educator may also indicate their perspectives are offered as a parent and a citizen.



While education professionals comprised 75% of all responses, the largest responding group were those working in secondary education. Elementary education and special education were the next largest responding groups. Individuals from business and industry represented 3.8% of responses.

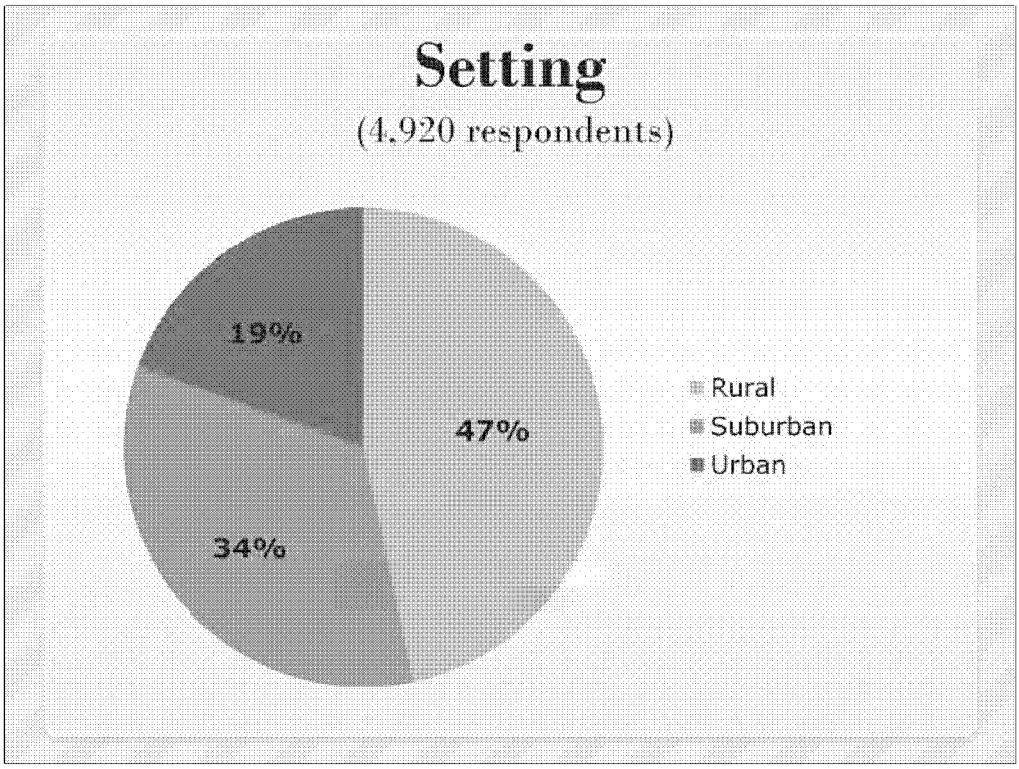
Note: Elementary education professionals are likely under-represented on this pie chart. That category was inadvertently omitted initially but was added after the survey launched. At that point, more than 300 individuals had selected the "Other" category. After adding Elementary education, the rate of growth for "Other" responses slowed dramatically.



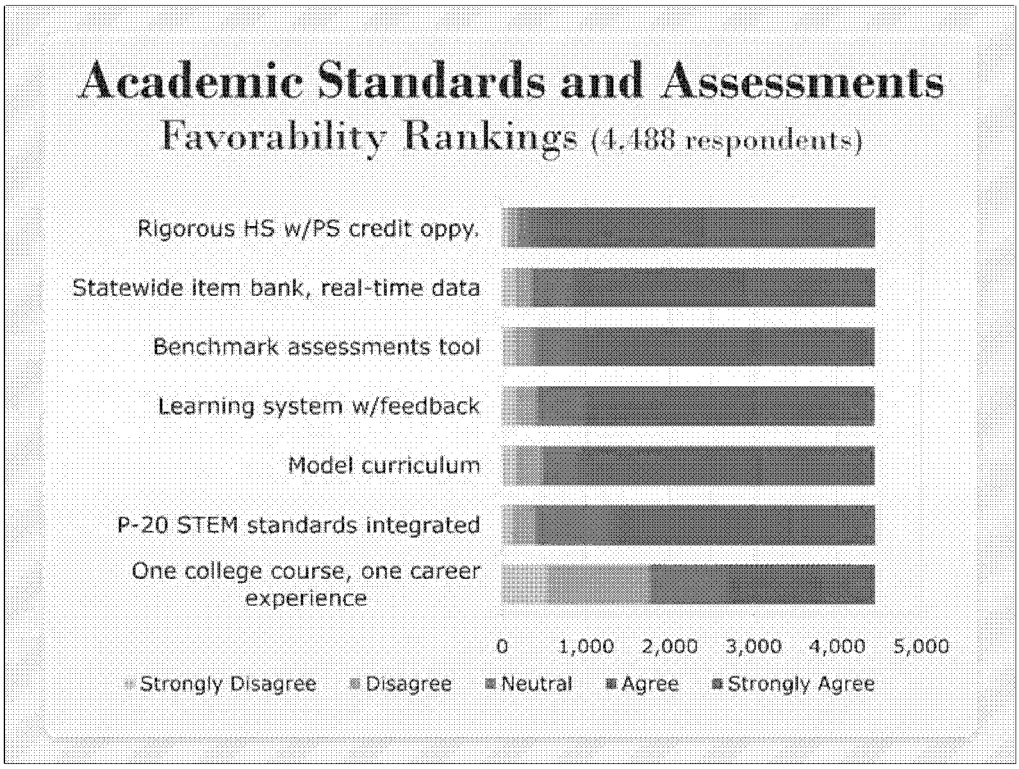
We are pleased to have heard from such a large number of individuals all across the state for Missouri's Race to the Top application. A number of "drivers" may have facilitated getting the word out to people across the state about the stakeholder survey. DESE's (Dec. 15) news release was posted to the website and distributed statewide. We noticed the announcement was picked up by the St. Louis Post-Dispatch the next day directing all its readers to the RT3 Web site to participate in the online survey.

In addition, many distribution lists of DESE and its organizational partners helped get the word out to primary stakeholders.

Social networks also facilitated getting the word out. The survey was "tweeted" and "re-tweeted" among some teacher groups, such as the case of a tweet to Family & Consumer Science Teachers, which was picked up by the Missouri State Teachers Association and re-tweeted to its members.



The perspectives of rural, urban, and suburban citizens are well represented. Nearly half (47%) of all responses were from individuals in rural areas, while the other half was split 19% urban and 34% suburban.



For the first of the four categories, Academic Standards and Assessments, seven ideas were presented for respondents to indicate their level of agreement (based on a scale from strongly disagree to strongly agree).

Nearly all ideas received an overwhelming or acceptable level of agreement. The most agreeable item is the idea of promoting a rigorous high school program with an opportunity for college credit.

The item within this grouping which received the least amount of concensus was the idea to require each high school student to take at least one college-level course and have at least one career experience. Based on the comments, however, this last item probably should have been two separate questions – there appears to be a good level of support for every high school student having a real-life career experience, while not everyone agrees that successfully completing a college-level course is feasible for all students.

Academic Standards and Assessments
Top 3 Priority Rankings (4,282 respondents)

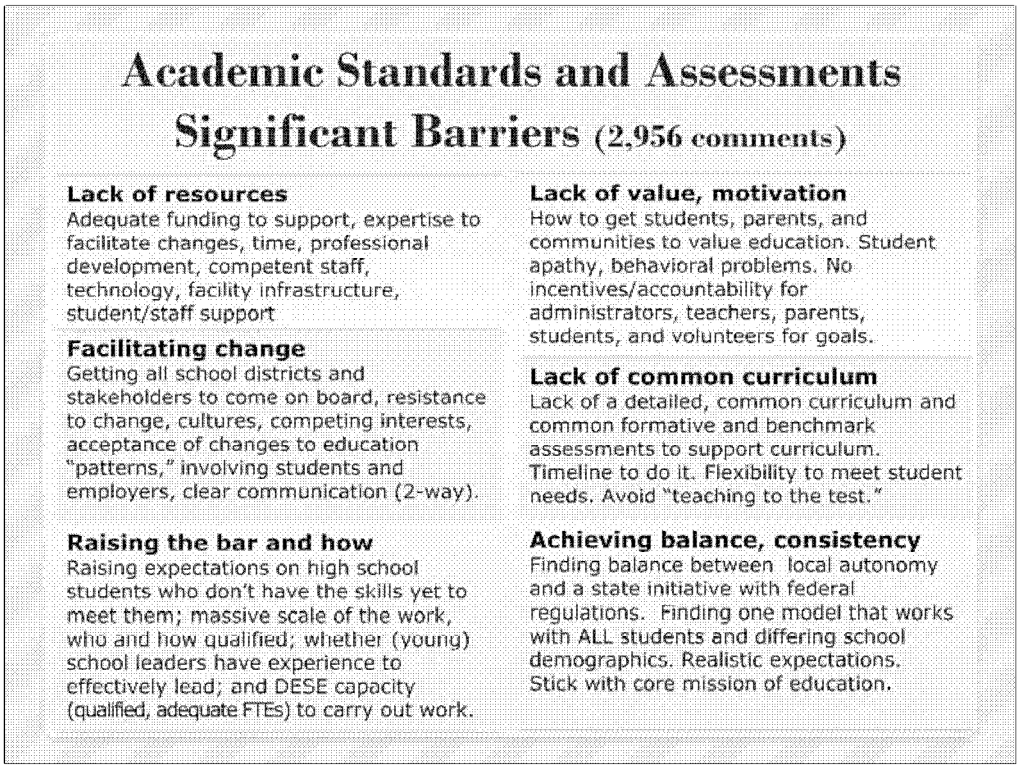
Item	#1 votes	#2 votes	#3 votes	Total Points
Tool to help teachers create benchmark assessments and generate real-time data	778	**908**	801	2,487
Statewide model curriculum linked to Common Core Standards	**975**	624	552	2,151
Learning system linking Common Core Standards, statewide model curriculum, and assessments	626	673	**713**	2,012

When respondents were asked to rank their Top 3 items, these came to the top of the list:

* Tool to help teachers create benchmark assessments and generate real-time data;
* Statewide model curriculum linked to Common Core Standards; and
* Learning system linking Common Core Standards, statewide model curriculum, and assessments.

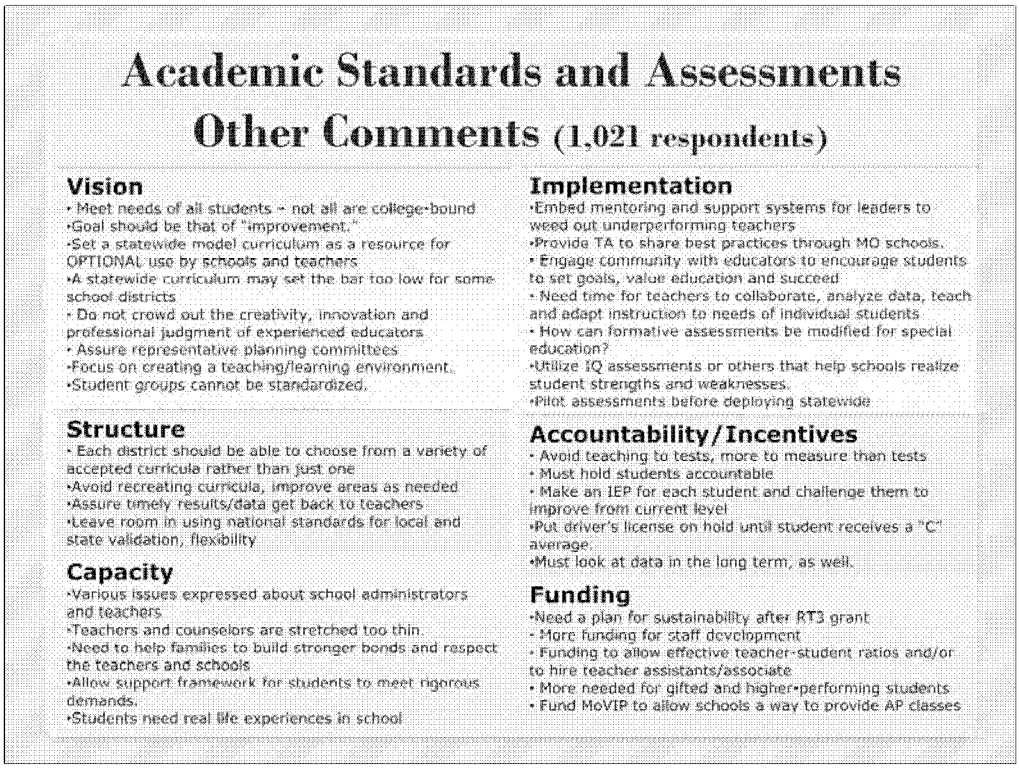
Just missing the Top 3 priority list was the overall, most agreeable item: Rigorous high school programs with potential for college credit.

The last-place item on the priority list (with 922 points) was for integrating P-20 STEM standards into state standards.



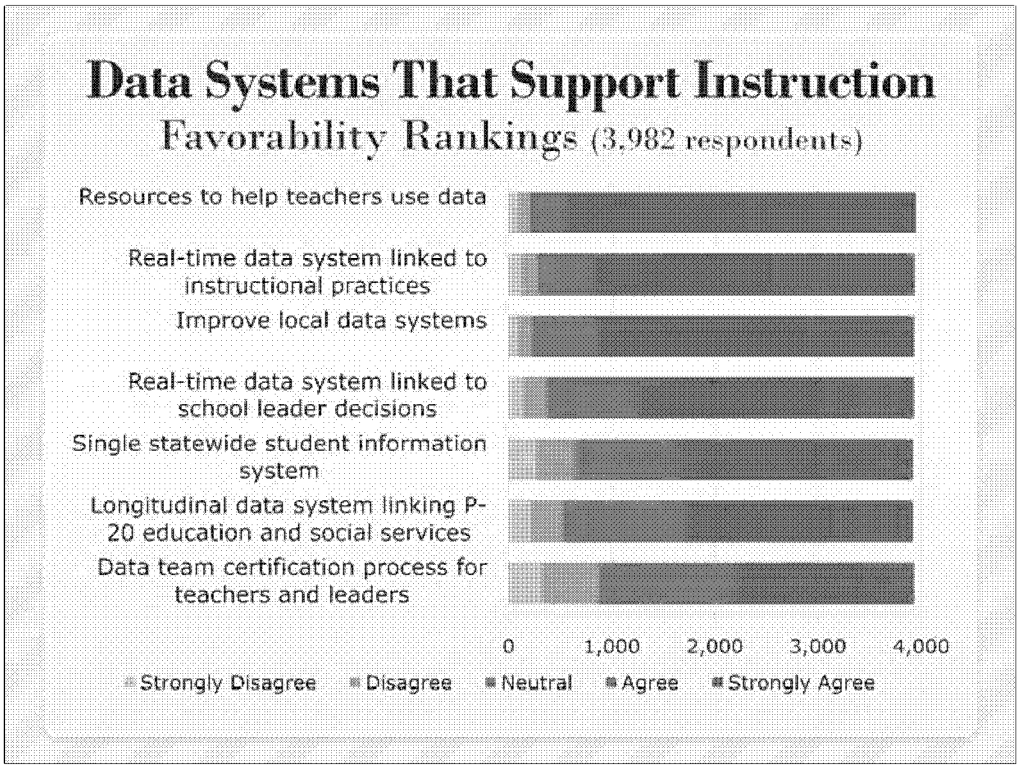
Nearly 3,000 thoughtful comments were given to the question of "What do you believe will be the most significant barrier(s) to implementing initiatives within this component.

The prevailing concepts may be summarized in these six buckets:
- Lack of resources
- Facilitating change
- Raising the bar – and how
- Lack of value, *motivation* in education
- Lack of common curriculum
- Achieving balance, consistency, and flexibility



More than 1,000 thoughtful comments were given to the opportunity to add any other comments or suggestions within this component. These are a sample of the comments. The committee working on this component is delving deeper into the feedback.

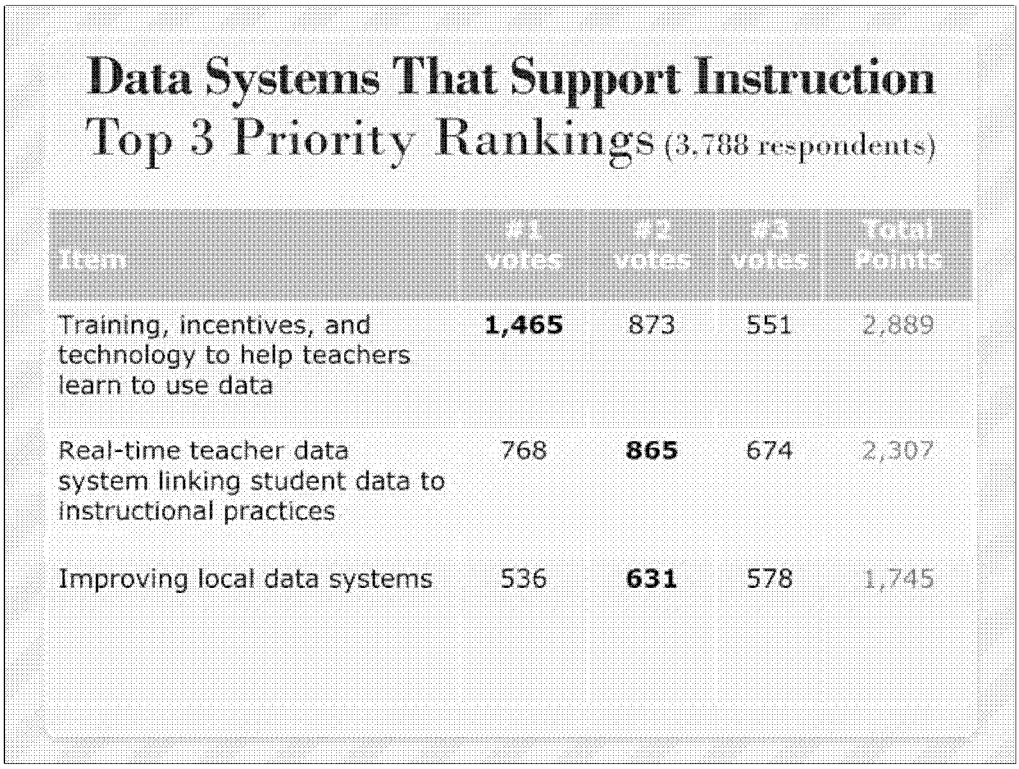
The prevailing concepts appear to relate to:
•Vision
•Structure
•Capacity
•Accountability/Incentives
•Funding



For the second category, Data Systems That Support Instruction, seven ideas were presented for respondents to indicate their level of agreement (strongly disagree to strongly agree) to achieve the vision for education in Missouri.

Most ideas received an overwhelming or acceptable level of agreement. The top item is the idea of providing training, incentives, and cutting-edge technologies that can help teachers use data.

Some of these items, particularly the last three on this list, had a higher proportion of "neutral" responses. The last item had the highest level of disagreement within this component, but in total less than the number of agreeable ratings for that item.



Data Systems That Support Instruction
Top 3 Priority Rankings (3,788 respondents)

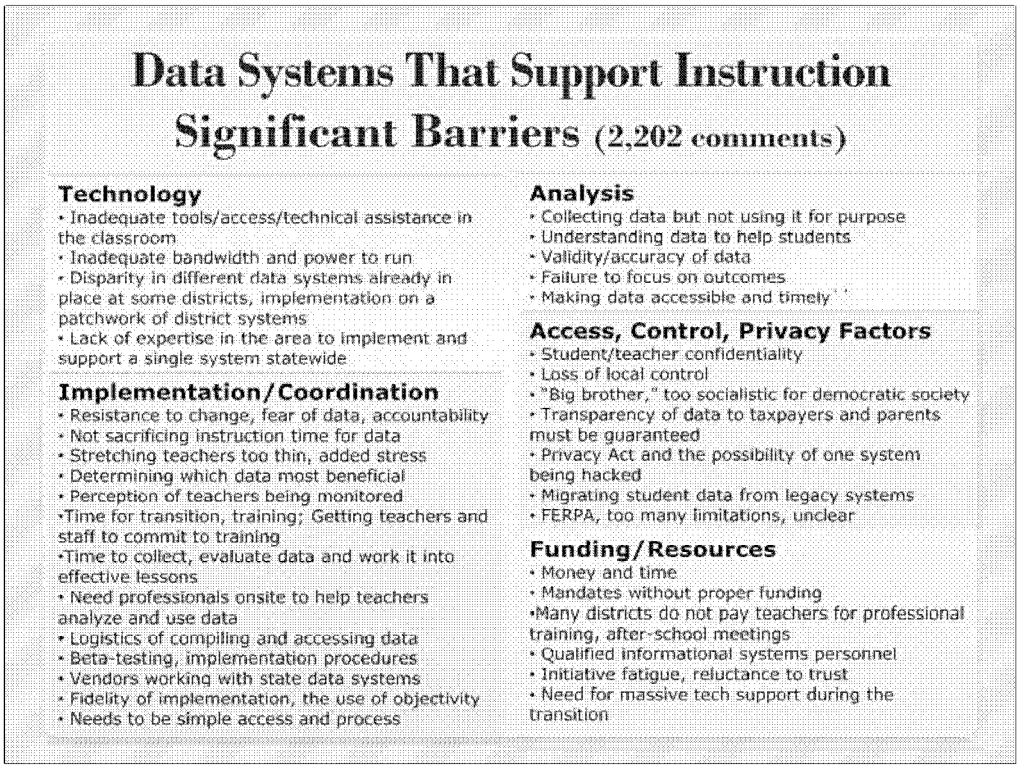
Item	#1 votes	#2 votes	#3 votes	Total Points
Training, incentives, and technology to help teachers learn to use data	**1,465**	873	551	2,889
Real-time teacher data system linking student data to instructional practices	768	**865**	674	2,307
Improving local data systems	536	**631**	578	1,745

When asked to rank their Top 3 items, these came to the top of the list:

- Training, incentives, and technology to help teachers learn to use data;
- Real-time teacher data system linking student data to instructional practices; and
- Improving local data systems

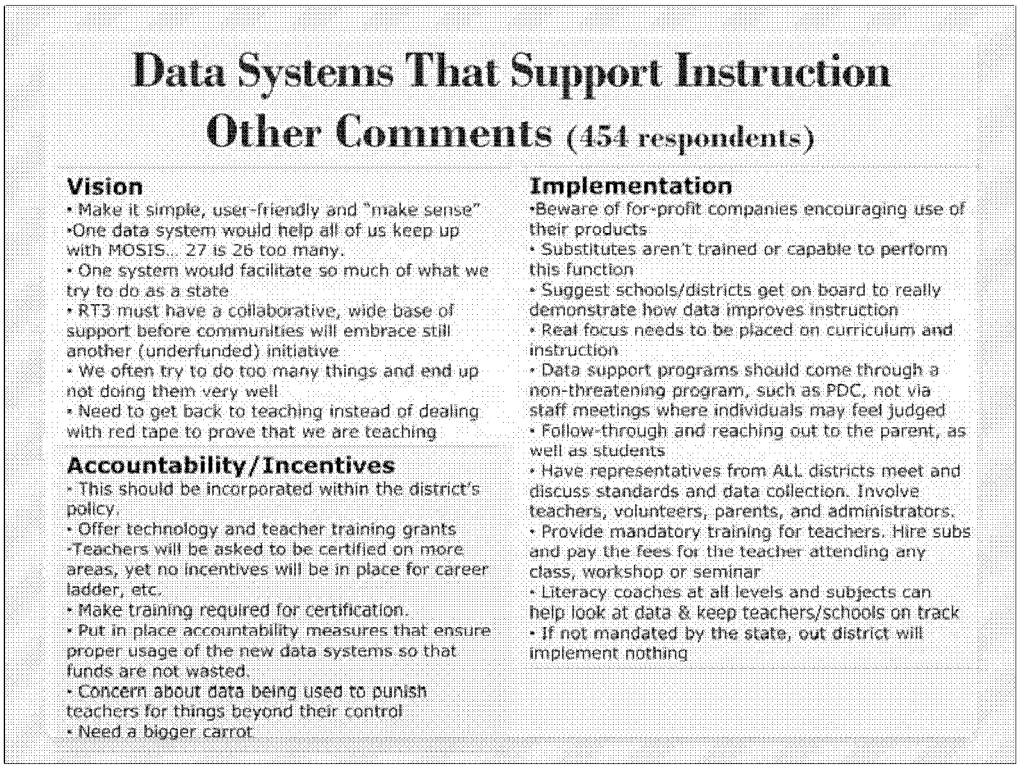
In fourth place was "Creating a single statewide student information system," which received 499 #1 priority votes and a 1,377 overall point count.

The last place item on the priority list (with 706 points) was creating a "Data team certification process for teachers and leaders."



Over 2,000 comments were given to the question of "What do you believe will be the most significant barrier(s) to implementing initiatives within this component.

The prevailing concepts may be summarized in these five broad buckets:
•Adequate technology
•Implementation/Coordination
•Privacy factors
•Analysis
•Funding/Resources



Data Systems That Support Instruction
Other Comments (454 respondents)

Vision
- Make it simple, user-friendly and "make sense"
- One data system would help all of us keep up with MOSIS... 27 is 26 too many.
- One system would facilitate so much of what we try to do as a state
- RT3 must have a collaborative, wide base of support before communities will embrace still another (underfunded) initiative
- We often try to do too many things and end up not doing them very well
- Need to get back to teaching instead of dealing with red tape to prove that we are teaching

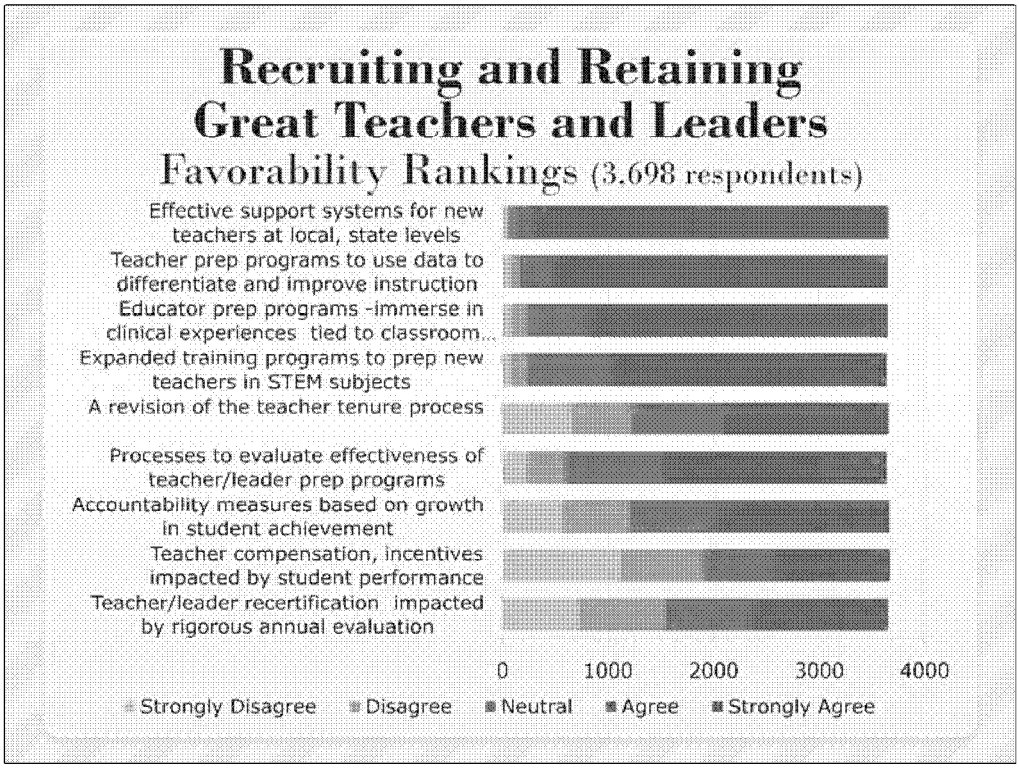
Accountability/Incentives
- This should be incorporated within the district's policy.
- Offer technology and teacher training grants
- Teachers will be asked to be certified on more areas, yet no incentives will be in place for career ladder, etc.
- Make training required for certification.
- Put in place accountability measures that ensure proper usage of the new data systems so that funds are not wasted.
- Concern about data being used to punish teachers for things beyond their control
- Need a bigger carrot

Implementation
- Beware of for-profit companies encouraging use of their products
- Substitutes aren't trained or capable to perform this function
- Suggest schools/districts get on board to really demonstrate how data improves instruction
- Real focus needs to be placed on curriculum and instruction
- Data support programs should come through a non-threatening program, such as PDC, not via staff meetings where individuals may feel judged
- Follow-through and reaching out to the parent, as well as students
- Have representatives from ALL districts meet and discuss standards and data collection. Involve teachers, volunteers, parents, and administrators.
- Provide mandatory training for teachers. Hire subs and pay the fees for the teacher attending any class, workshop or seminar
- Literacy coaches at all levels and subjects can help look at data & keep teachers/schools on track
- If not mandated by the state, out district will implement nothing

About 450 additional comments were received within this component. These are a sample of the comments. The committee working on this component is delving deeper into the feedback.

The prevailing concepts appear to relate to:
- Vision
- Accountability/Incentives
- Implementation

Note that Capacity and funding were overwhelmingly brought up in the first open response opportunity, so do not appear so much in this second comment box.



For the third category, Recruiting and Retaining Great Teachers and Leaders, nine ideas were presented for respondents to indicate their level of agreement (strongly disagree to strongly agree) to achieve the vision for education in Missouri.

This component received the most diverse range of opinion. Five of the nine items received a majority of agreement. The top item of agreement is the idea to provide effective support systems at the local and state level for new teachers. Items two through four on this bar chart also receiving a high level of agreement are:
•Teacher preparation programs that prepare candidates to use data to differentiate and improve instruction,
• Educator preparation programs that immerse candidates in diverse, sustained clinical experiences that are integrated with classroom theory, and
• Expanded training programs to prepare new teachers in Science, Technology, Engineering & Mathematics, or "STEM" subjects.

Another idea that respondents mostly agree with is item #6 on this list, Processes for evaluating the effectiveness of teacher/leader preparation programs through links to student data from schools in which program graduates are placed.

As expected, the remainder of the list shows the ideas that are controversial across the state, with many people both in favor and not in favor of the ideas presented for stakeholder response:
• A revision of the teacher tenure process;
• Accountability measures for teachers, administrators, and schools based on growth in student achievement;
• Teacher compensation and other incentives impacted by student performance; and
• Teacher/leader certification requirements that are impacted by rigorous annual evaluation, including peer evaluation and/or outside evaluators.

Looking at the item related to the teacher tenure issue, while split, all respondent groups except educators were slightly more agreeable to revising the teacher tenure process than disagreeable (1,573 agreeable / 1,222 disagreeable / 903 neutral). Educators as a whole responded fairly evenly on both sides, yet were the only respondent group to be (slightly) more disagreeable than agreeable (994 agreeable to 1,092 disagreeable). The majority of parents were agreeable to revising the teacher tenure process with 619 responses to 476 disagreeable responses. Business and industry representatives were most agreeable with 108 to 15. Association and chamber respondents were split, 11 to 9, agreeable over disagreeable . Community setting does not appear to a factor in the distribution of responses, as rural, urban, and suburban were fairly consistent in their opinions.

The item with the highest level of disagreement within this RT3 category is tying teacher compensation to student performance, followed by the teacher/leader recertification. Open-response comments throughout the survey frequently echo the sentiment against tying teacher compensation to student performance.

Recruiting and Retaining Great Teachers and Leaders

Top 3 Priority Rankings (3,607 respondents)

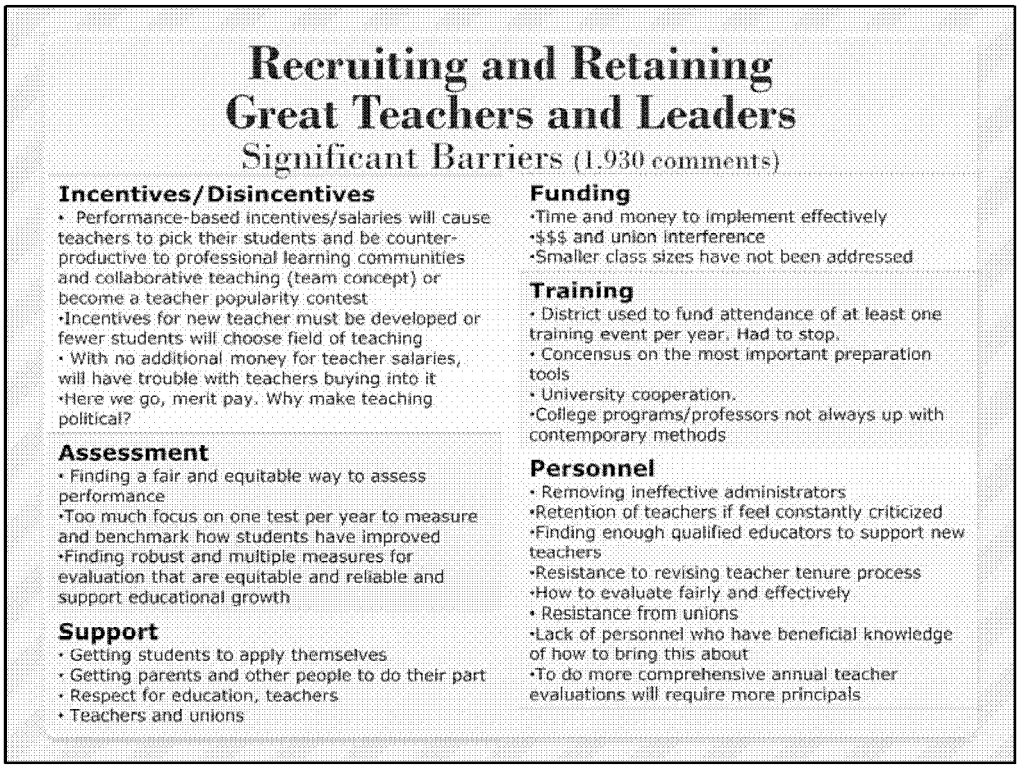
Item	#1 votes	#2 votes	#3 votes	Total Points
Effective support systems at the local and state level for new teachers	**1,002**	691	555	2,248
Teacher preparation programs that prepare candidates to use data to differentiate and improve instruction	**825**	758	603	2,186
Educator preparation programs that immerse candidates in diverse, sustained clinical experiences that are integrated with classroom theory	**762**	686	508	1,956

When asked to rank their Top 3 items, these came to the top of the list:

- Effective support systems at the local and state level for new teachers
- Teacher preparation programs that prepare candidates to use data to differentiate and improve instruction
- Educator preparation programs that immerse candidates in diverse, sustained clinical experiences that are integrated with classroom theory

In (distant) fourth place was "Expanded training programs to prepare new teachers in STEM subjects," which received 274 #1 priority votes and an overall point count of 1,239.

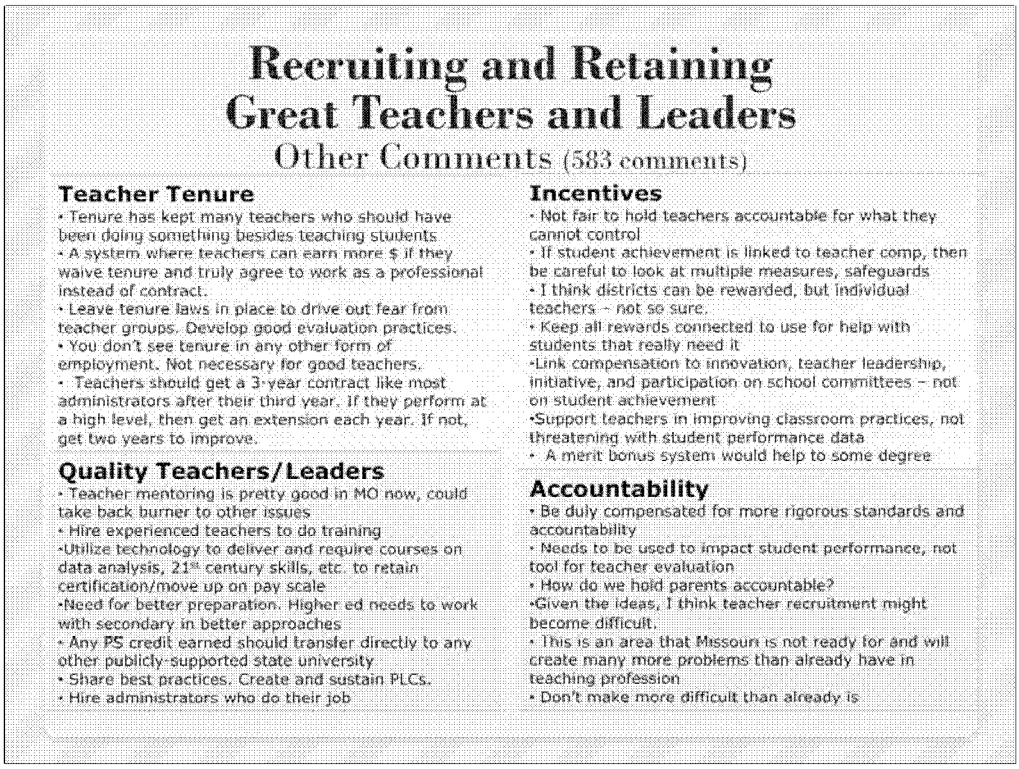
The remaining five ideas on the list scored less than 1,000 points each, which reflects the favorability ratings we reviewed on the previous chart.



Over 1,900 comments were given to the question of "What do you believe will be the most significant barrier(s) to implementing initiatives within this component."

The prevailing concepts may be summarized in these areas:

Incentives and disincentives
•Assessment
•Support
•Funding
•Training
•Personnel
•And more….



Recruiting and Retaining Great Teachers and Leaders

Other Comments (583 comments)

Teacher Tenure

- Tenure has kept many teachers who should have been doing something besides teaching students
- A system where teachers can earn more $ if they waive tenure and truly agree to work as a professional instead of contract.
- Leave tenure laws in place to drive out fear from teacher groups. Develop good evaluation practices.
- You don't see tenure in any other form of employment. Not necessary for good teachers.
- Teachers should get a 3-year contract like most administrators after their third year. If they perform at a high level, then get an extension each year. If not, get two years to improve.

Quality Teachers/Leaders

- Teacher mentoring is pretty good in MO now, could take back burner to other issues
- Hire experienced teachers to do training
- Utilize technology to deliver and require courses on data analysis, 21st century skills, etc. to retain certification/move up on pay scale
- Need for better preparation. Higher ed needs to work with secondary in better approaches
- Any PS credit earned should transfer directly to any other publicly-supported state university
- Share best practices. Create and sustain PLCs.
- Hire administrators who do their job

Incentives

- Not fair to hold teachers accountable for what they cannot control
- If student achievement is linked to teacher comp, then be careful to look at multiple measures, safeguards
- I think districts can be rewarded, but individual teachers – not so sure.
- Keep all rewards connected to use for help with students that really need it
- Link compensation to innovation, teacher leadership, initiative, and participation on school committees – not on student achievement
- Support teachers in improving classroom practices, not threatening with student performance data
- A merit bonus system would help to some degree

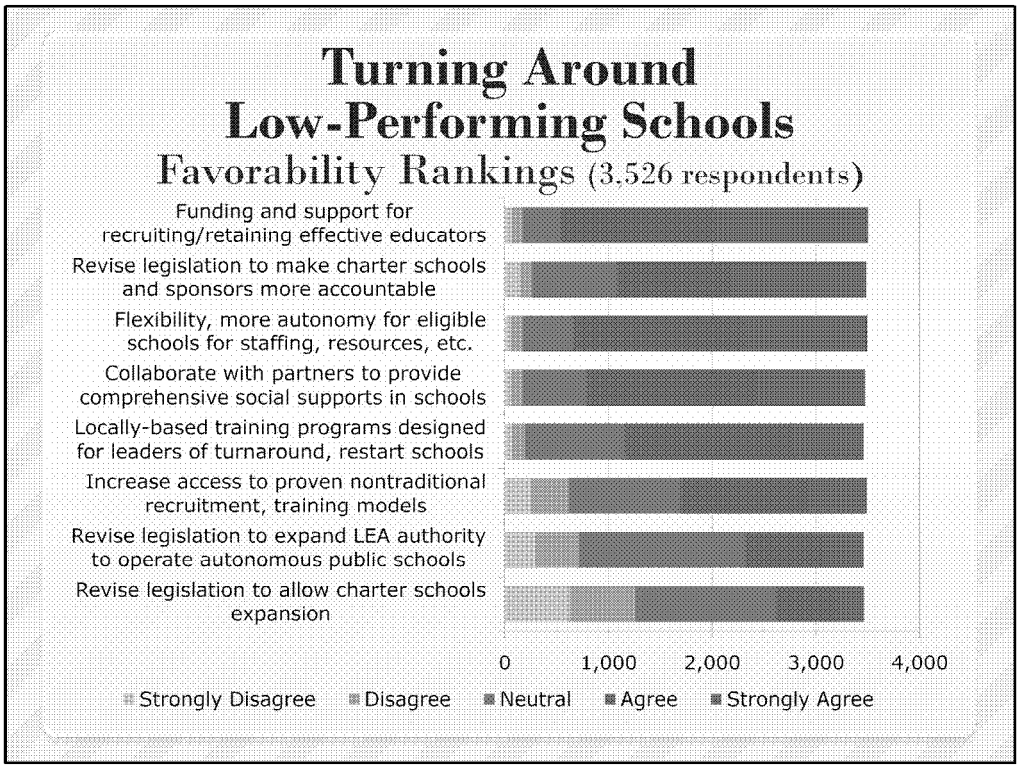
Accountability

- Be duly compensated for more rigorous standards and accountability
- Needs to be used to impact student performance, not tool for teacher evaluation
- How do we hold parents accountable?
- Given the ideas, I think teacher recruitment might become difficult.
- This is an area that Missouri is not ready for and will create many more problems than already have in teaching profession
- Don't make more difficult than already is

DESE received nearly 600 additional comments in the component addressing "Recruiting and Retaining Great Teachers and Leaders."

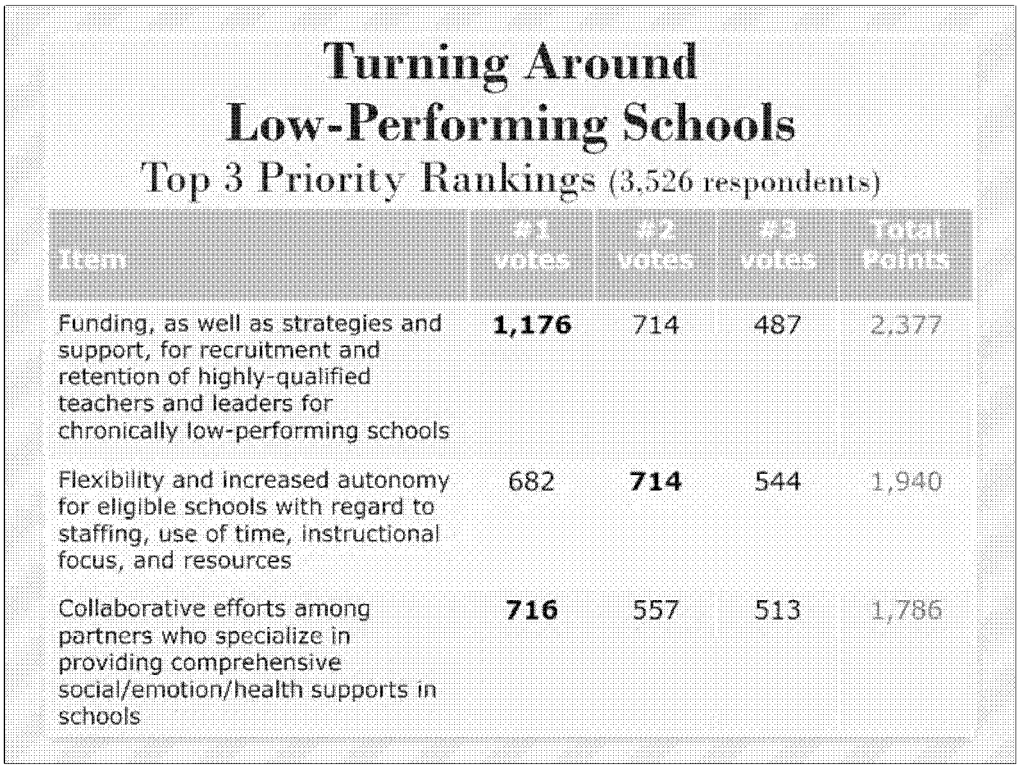
The prevailing concepts may be summarized in these areas:
- Teacher Tenure
- Quality Teachers and Leaders
- Incentives
- Accountability

A significant number of comments were insightful as to concerns about pay-for-performance, teacher tenure and teacher evaluation. Many excellent and innovative ideas were submitted in the nearly 600 comments, and will give the development committee much to consider.



For the last of the four components of the Race to the Top criteria, Turning Around Low-Performing Schools, eight ideas were presented for respondents to indicate their level of agreement (strongly disagree to strongly agree) to achieve the vision for education in Missouri.

Most ideas received an overwhelming or acceptable level of agreement. The most agreeable item is the idea of providing funding, as well as strategies and support, for recruitment and retention of effective teachers and leaders for chronically low-performing schools. The least agreeable item is an idea to revise legislation to allow charter schools expansion.



Turning Around Low-Performing Schools

Top 3 Priority Rankings (3,526 respondents)

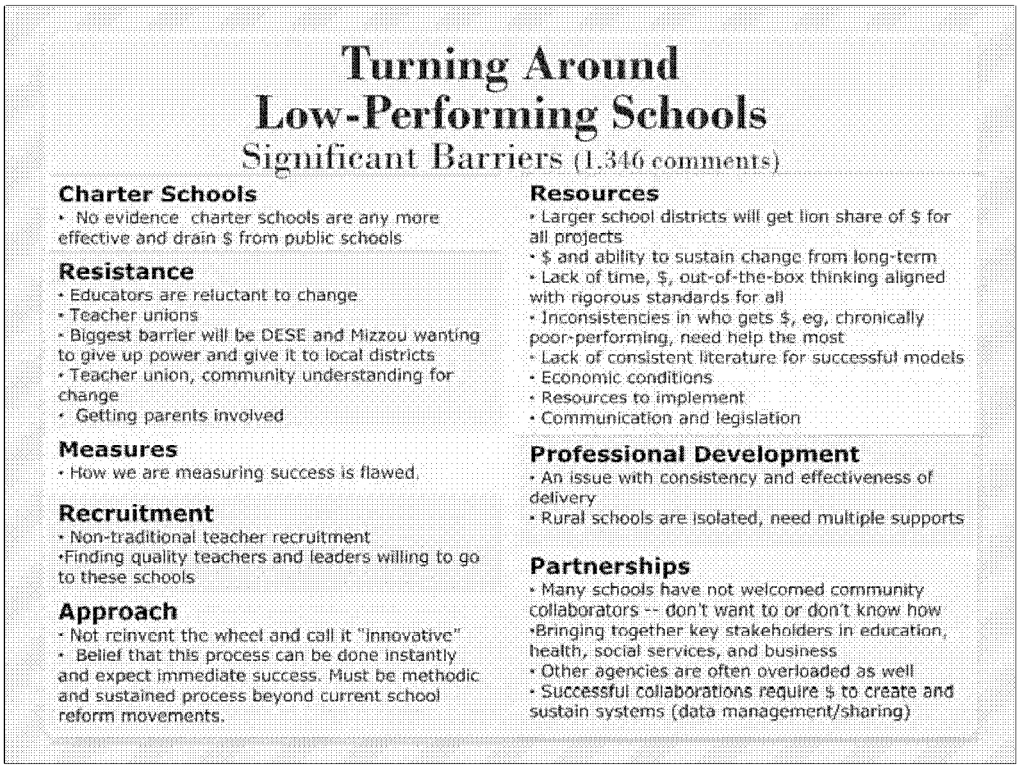
Item	#1 votes	#2 votes	#3 votes	Total Points
Funding, as well as strategies and support, for recruitment and retention of highly-qualified teachers and leaders for chronically low-performing schools	**1,176**	714	487	2,377
Flexibility and increased autonomy for eligible schools with regard to staffing, use of time, instructional focus, and resources	682	**714**	544	1,940
Collaborative efforts among partners who specialize in providing comprehensive social/emotion/health supports in schools	**716**	557	513	1,786

When asked to rank their Top 3 items, these came to the top of the list:

•Funding, as well as strategies and support, for recruitment and retention of highly-qualified teachers and leaders for chronically low-performing schools;
•Flexibility and increased autonomy for eligible schools with regard to staffing, use of time, instructional focus, and resources; and
•Collaborative efforts among partners who specialize in providing comprehensive social/emotion/health supports in schools.

In (distant) fourth place was "Increased access to proven non-traditional recruitment and training models for teachers and leaders, as well as innovative locally-based programs," which received 249 #1 priority votes and an overall point count of 1,211.

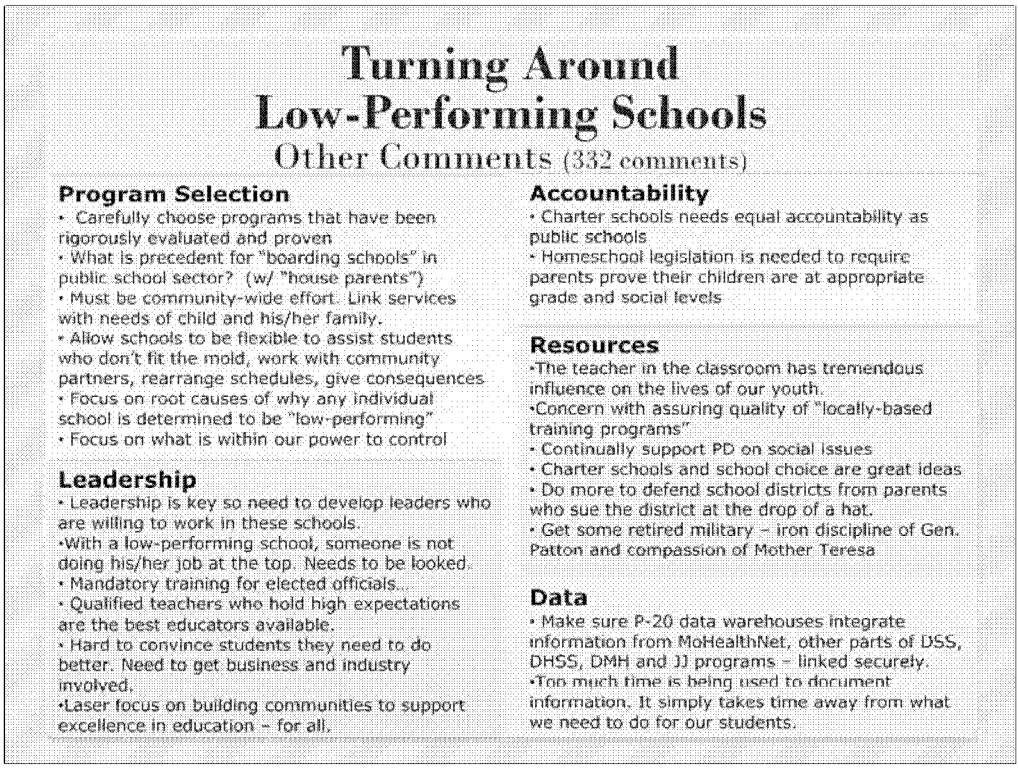
Of the eight ideas on the list, the remaining four scored less than 1,000 points each.



Over 1,300 comments were given to the question of "What do you believe will be the most significant barrier(s) to implementing initiatives within this component."

The prevailing concepts may be summarized in these areas:
•Charter schools
•Resistance to expect
•Measures
•Recruitment
•Approach
•Resources
•Professional Development
•Partnerships
•And more

Here is a small sample of the comments which represent the type of the barriers to expect in this component.



Turning Around Low-Performing Schools

Other Comments (332 comments)

Program Selection

- Carefully choose programs that have been rigorously evaluated and proven
- What is precedent for "boarding schools" in public school sector? (w/ "house parents")
- Must be community-wide effort. Link services with needs of child and his/her family.
- Allow schools to be flexible to assist students who don't fit the mold, work with community partners, rearrange schedules, give consequences
- Focus on root causes of why any individual school is determined to be "low-performing"
- Focus on what is within our power to control

Leadership

- Leadership is key so need to develop leaders who are willing to work in these schools.
- With a low-performing school, someone is not doing his/her job at the top. Needs to be looked.
- Mandatory training for elected officials.
- Qualified teachers who hold high expectations are the best educators available.
- Hard to convince students they need to do better. Need to get business and industry involved.
- Laser focus on building communities to support excellence in education – for all.

Accountability

- Charter schools needs equal accountability as public schools
- Homeschool legislation is needed to require parents prove their children are at appropriate grade and social levels

Resources

- The teacher in the classroom has tremendous influence on the lives of our youth.
- Concern with assuring quality of "locally-based training programs"
- Continually support PD on social issues
- Charter schools and school choice are great ideas
- Do more to defend school districts from parents who sue the district at the drop of a hat.
- Get some retired military – iron discipline of Gen. Patton and compassion of Mother Teresa

Data

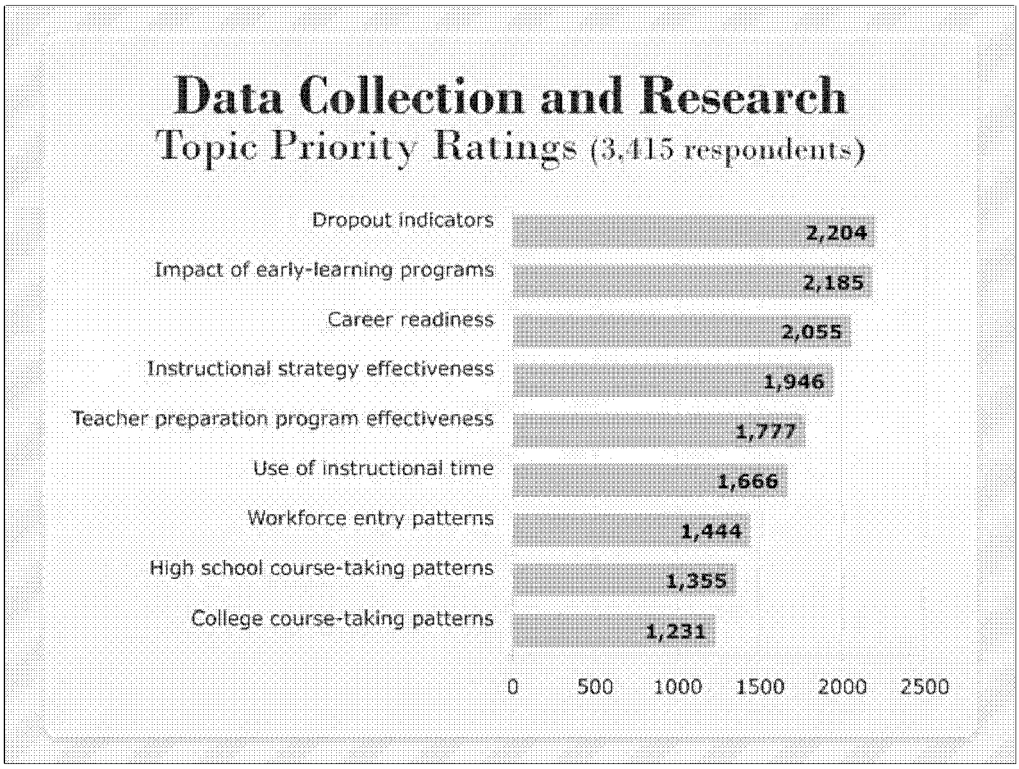
- Make sure P-20 data warehouses integrate information from MoHealthNet, other parts of DSS, DHSS, DMH and JJ programs – linked securely.
- Too much time is being used to document information. It simply takes time away from what we need to do for our students.

DESE received more than 300 additional comments in the component addressing "Turning Around Low-Performing Schools."

In addition to the comments previously reviewed, the prevailing concepts may be summarized in these areas:

- Program Selection
- Leadership
- Accountability
- Resources
- Data
- And more….

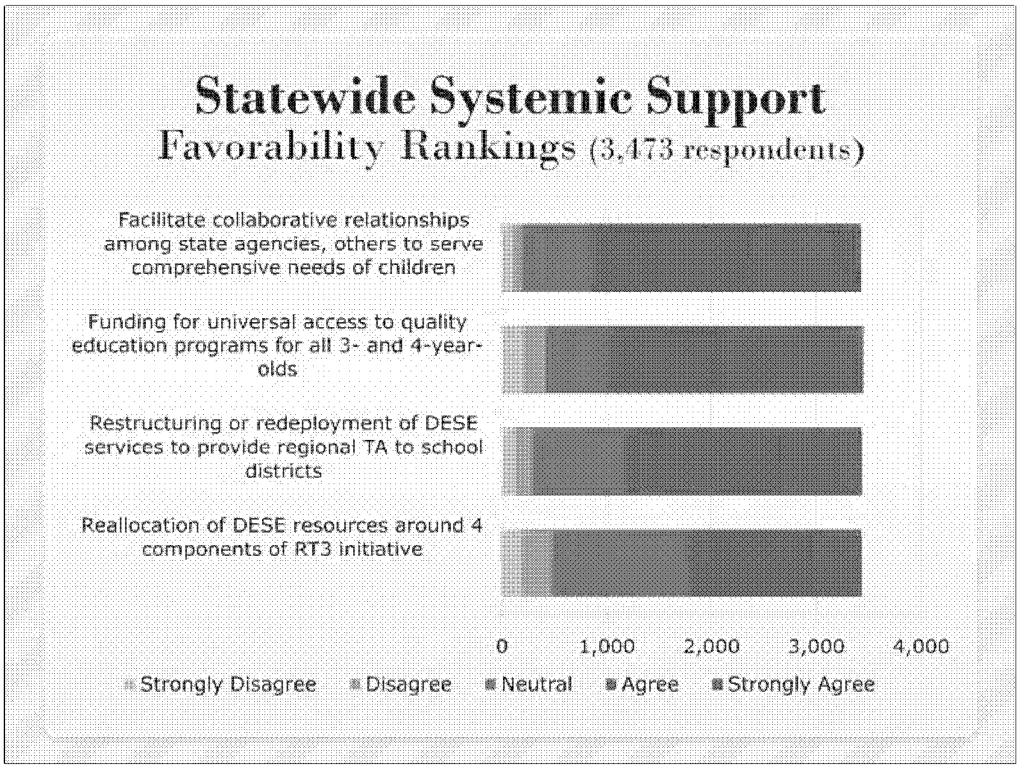
A significant number of comments were insightful as to concerns about causes and effects and possible solutions. Many excellent and innovative ideas were submitted in the comments, and will give the development committee much to consider, as well.



In collaboration with MERIC, the Missouri Economic Research Information Center, we also collected information about research topics.

Longitudinal data systems, such as those that could be funded by the Race to the Top initiative, will make it possible to follow students' progress from entry into the public education system through graduation and entry into postsecondary education or the workforce. Linked data from a comprehensive longitudinal data system will better inform students, parents, teachers, and policymakers about educational issues.

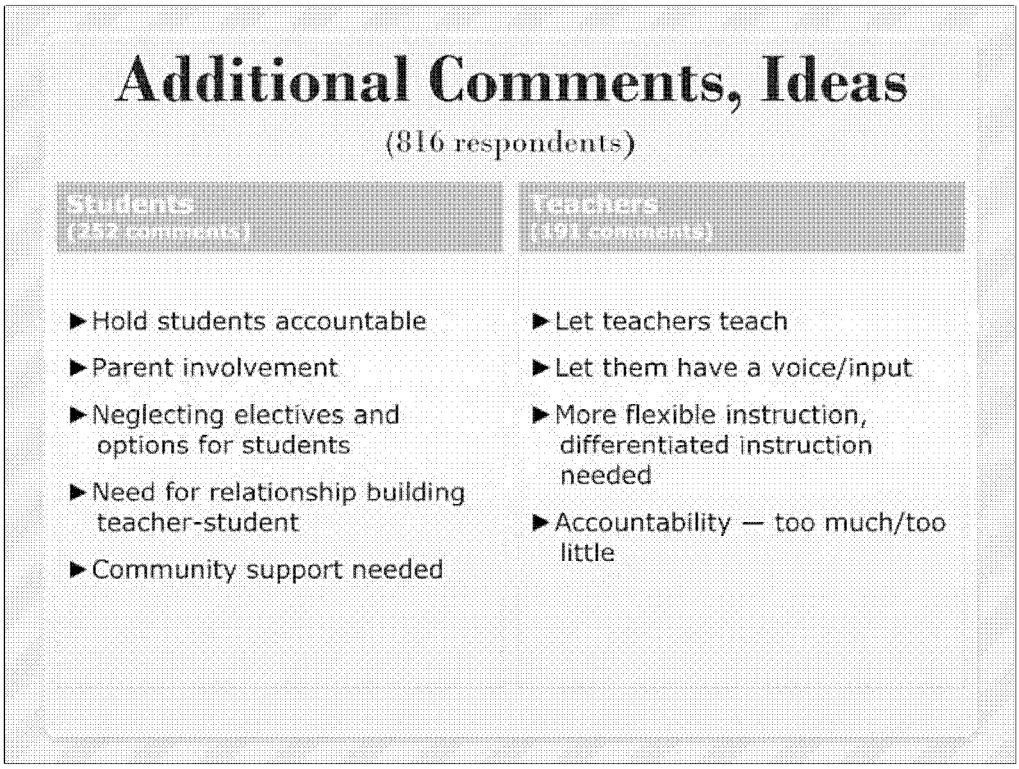
In addition to the topics rated here, an addition 268 comments were received. MERIC staff and the P-20 Council are further analyzing this information, as well as suggestions for the most usable formats for sharing research findings, which may include short research briefs released periodically, ad hoc data queries on a website, quarterly reports, annual reports, and/or downloadable formats.



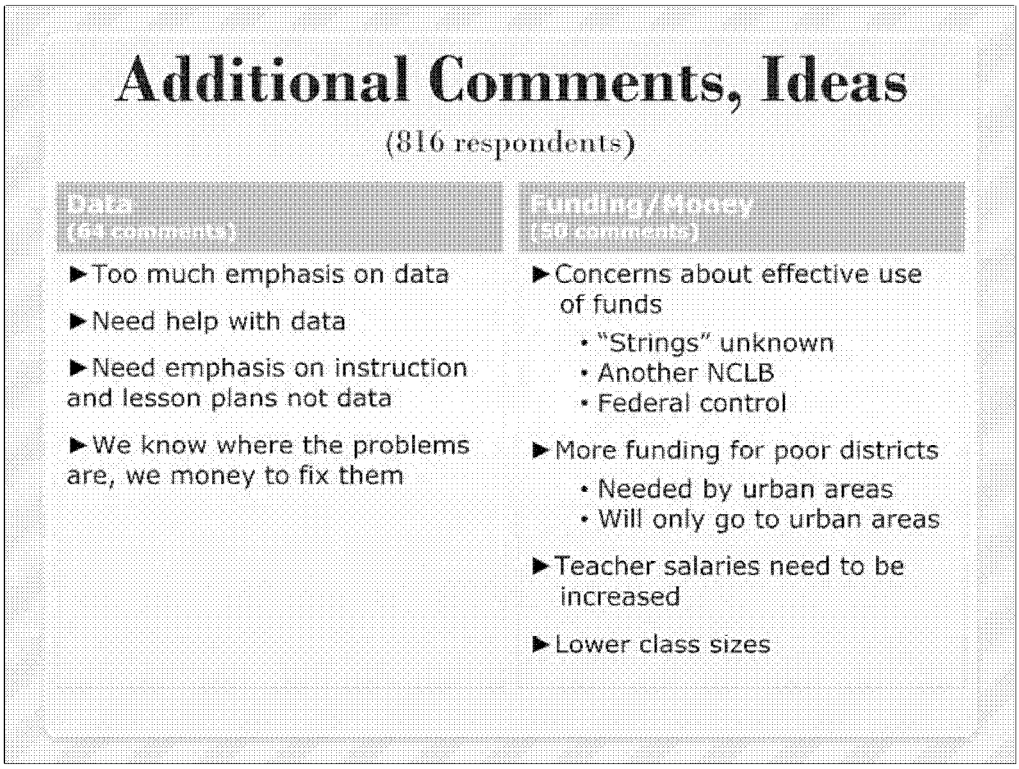
The Department of Elementary and Secondary Education also asked Missouri education stakeholders to rank the following four comments related to providing statewide systemic support to achieve the vision for education in Missouri.

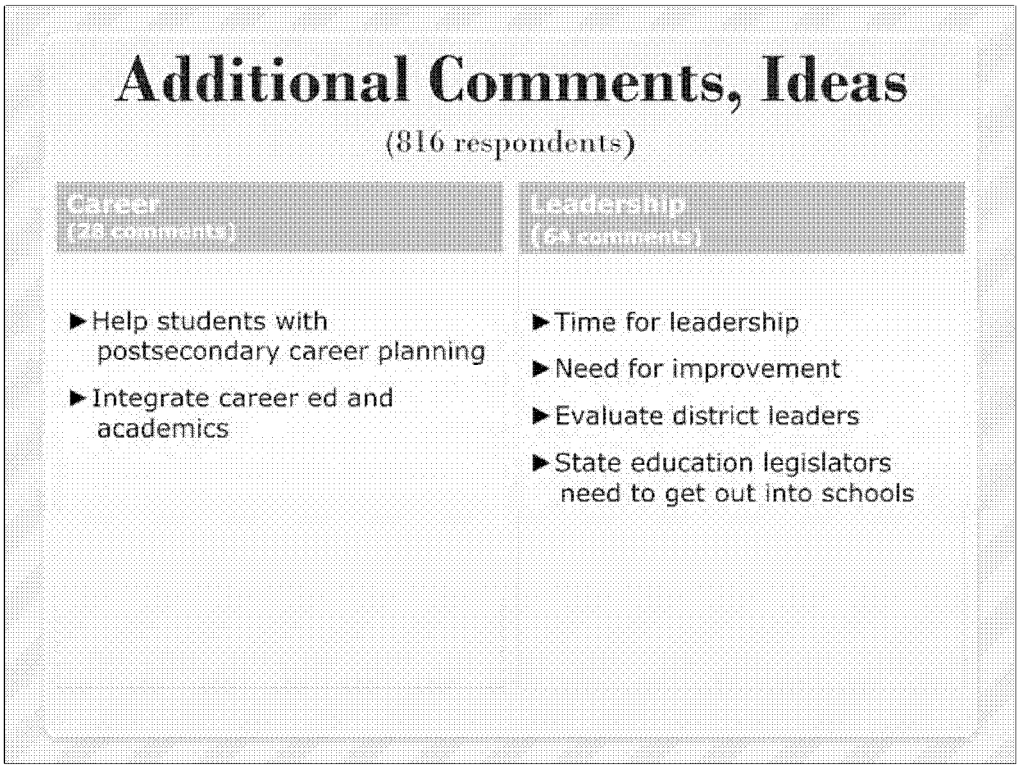
Most ideas received an overwhelming or acceptable level of agreement. The most agreeable item is the idea of facilitating collaborative relationships among state agencies and other agencies outside of state government to serve comprehensive needs of children.

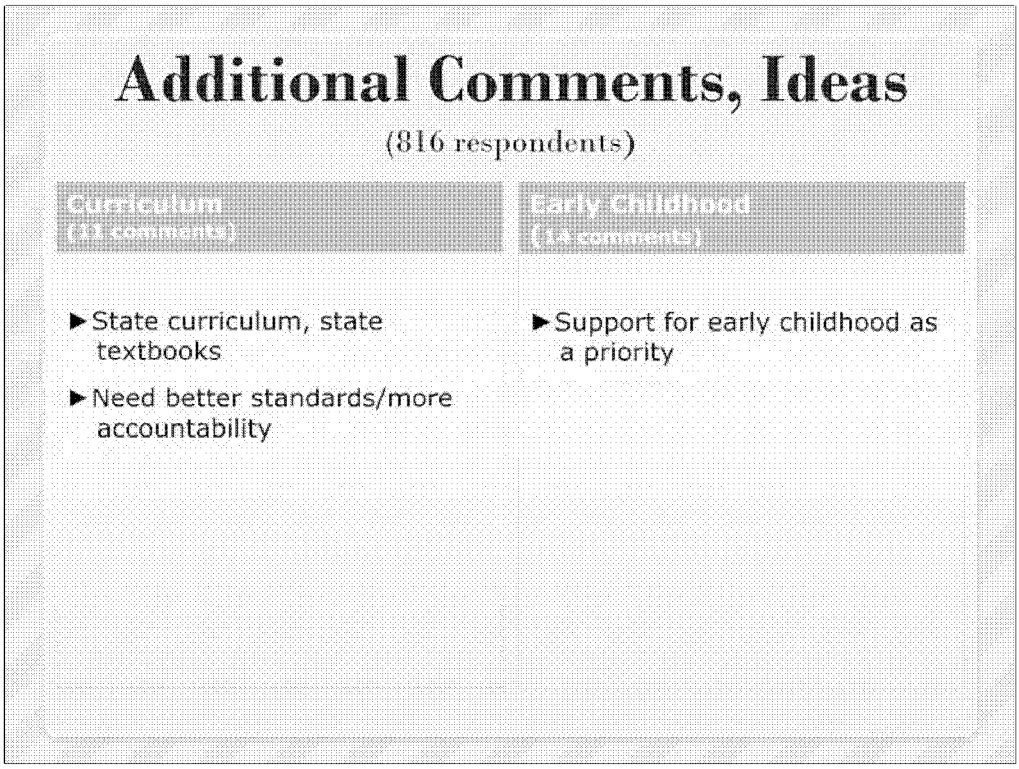
The item with the least amount of stakeholder opinion is whether to reallocate human and financial resources within DESE around the four components of the Race to the Top initiative. The agreeable/neutral tone may suggest stakeholders will leave that one to DESE leadership to decide.

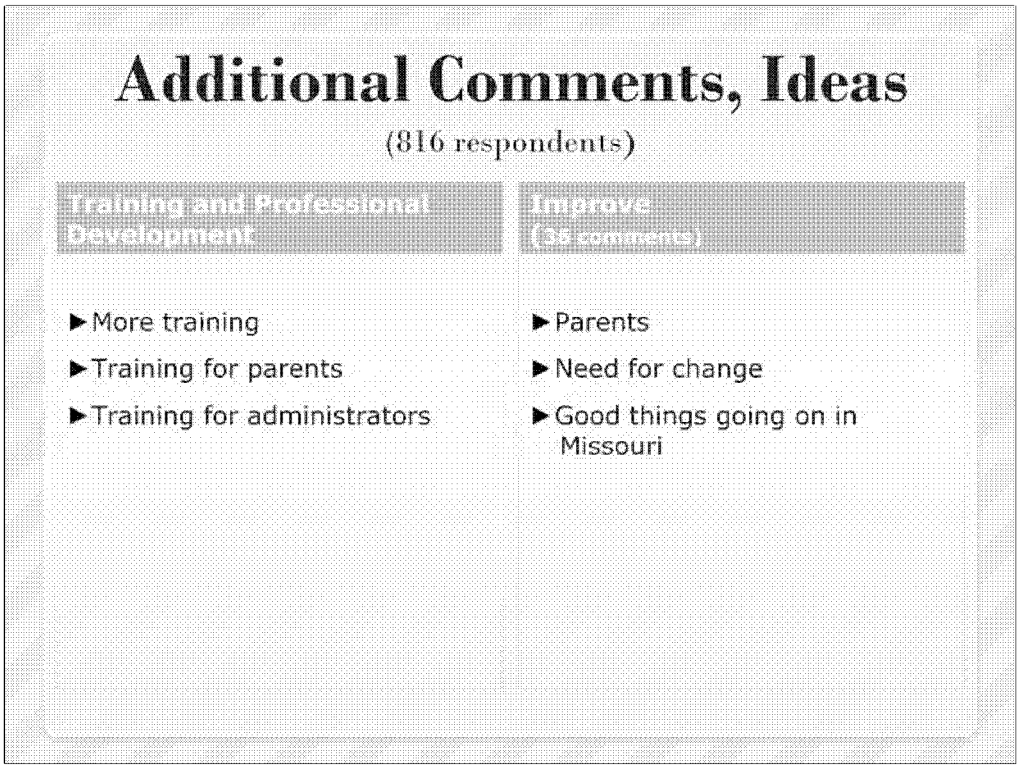


This last segment of information collected from stakeholders is an open opportunity to submit additional comments and ideas for consideration. The following slides summarize these ideas. It is also important to note that not included in this summary are a good number of "Thank yous" for asking and "Good luck" comments submitted by Missouri citizens.


Additional Comments, Ideas
(816 respondents)
Data
(63 comments)
Too much emphasis on data
Need help with data
Need emphasis on instruction and lesson plans not data
We know where the problems are, we money to fix them
Funding/Money
(50 comments)
Concerns about effective use of funds
"Strings" unknown
Another NCLB
Federal control
More funding for poor districts
Needed by urban areas
Will only go to urban areas
Teacher salaries need to be increased
Lower class sizes


Additional Comments, Ideas
(816 respondents)
Career
(28 comments)
Leadership
(24 comments)
Help students with postsecondary career planning
Integrate career ed and academics
Time for leadership
Need for improvement
Evaluate district leaders
State education legislators need to get out into schools


Additional Comments, Ideas
(816 respondents)
Curriculum
(37 comments)
Early Childhood
(13 comments)
State curriculum, state textbooks
Need better standards/more accountability
Support for early childhood as a priority


Additional Comments, Ideas
(816 respondents)
Training and Professional Development
More training
Training for parents
Training for administrators
Improve
(35 comments)
Parents
Need for change
Good things going on in Missouri

Additional Comments, Ideas
(816 respondents)
Vision and Structure
(33 comments)
Incentives
(3 comments)
Need innovation, need change
Need a strong plan
Need local accountability
Need fresh ideas, nothing innovative presented
System should address individual needs
Just another bureaucratic program
Need incentives for teachers
Incentives and consequences for parents

AVILA UNIVERSITY
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May 4, 2010

Dr. Chris Nicastro, Commissioner
Department of Elementary and Secondary Education
205 Jefferson Street
PO Box 480
Jefferson City, MO 65102

Dear Dr. Nicastro:

The United States Department of Education's invitation for states to participate in the Race to The Top (RT3) competition is an outstanding opportunity for Missouri to build on strengths, extend existing reform work, and develop a comprehensive plan for improving our educational system. Such efforts will bring systemic educational reform that will directly impact Missouri students. As a result, successful transition from early childhood through post-secondary education and into the workforce will permit equitable competition in the global economy and benefit our entire citizenry.

More than just a request for federal funding, the RT3 proposal will present a statewide vision and innovative plan for systemic educational reform in Missouri over the next decade.
As a major Missouri stakeholder, Avila University enthusiastically supports the development of the RT3 application and subsequent implementation of a comprehensive and seamless education system.

Our faculty and staff at Avila University will work with the Missouri Department of Education and our other numerous state partners to produce the healthy and highly educated workforce needed to launch Missouri, and our nation, into a prosperous future.

Your consideration on behalf of Missouri's children will be appreciated.

Ann West

Ann West, Director of Student Field Experiences
School of Education, Avila University

Email copy: Robin Coffman, Assistant to the Commissioner

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St. Louis, Missouri 63105-3098
(314) 889-1430
(314) 719-8002 fax
www.fontbonne.edu

May 14, 2010

To Whom It May Concern:

The United States Department of Education's invitation for states to participate in the Race to the Top (RT3) competition is an outstanding opportunity for Missouri to build on strengths, extend existing reform work, and develop a comprehensive plan for improving our educational system. Such efforts will bring systemic educational reform that will directly impact Missouri students. As a result, successful transition from early childhood through post-secondary education and into the workforce will permit equitable competition in the global economy and benefit our entire citizenry.

More than just a request for federal funding, the RT3 proposal will present a statewide vision and innovative plan for systemic educational reform in Missouri over the next decade.

As a major Missouri stakeholder, the teacher education unit of Fontbonne University enthusiastically supports the development of the RT3 application and subsequent implementation of a comprehensive and seamless education system.

We will work with the Missouri Department of Education and our other numerous state partners to produce the healthy and highly educated workforce needed to launch Missouri, and our nation, into a prosperous future.

Your consideration on behalf of Missouri's children will be appreciated.

Sincerely,

William Freeman, Ed.D.
Dean of Education

LINN STATE
TECHNICAL COLLEGE

One Technology Drive
Linn, Missouri 65051

Phone 573-897-5000
Fax 573-897-4656
www.linnstate.edu

May 5, 2010

To Whom It May Concern,

As a major Missouri stakeholder, Linn State Technical College supports the development of the RT3 application and subsequent implementation of a comprehensive and seamless education system.

More than just a request for federal funding, the RT3 proposal will present a statewide vision and innovative plan for systemic educational reform in Missouri over the next decade.

Our staff is dedicated to assisting to develop a highly educated workforce needed to launch Missouri, and our nation, into a prosperous future.

Your consideration on behalf of Missouri's students of all ages will be appreciated.

Sincerely,

Donald M. Claycomb, Ph.D.
President

MISSOURI CHAMBER
OF COMMERCE AND INDUSTRY

May 5, 2010

To Whom It May Concern:

The Missouri Chamber of Commerce and Industry (Missouri Chamber) knows the value a strong education system can have on the business and economic growth of a community and a state. Our organization has actively engaged in supporting education policy focused on preparing our youth for the careers of the future and providing programs in schools and with our members that encourage students to take rigorous courses and offer mentors to guide them in their growth. Missouri's education system is extremely important to our members and an area the Missouri Chamber will continue to be involved in offering assistance.

The Missouri Chamber is the state's largest and most influential business association representing more than 3,000 employers who provide more than 425,000 jobs for Missourians. In 1964 the Missouri Chamber of Commerce and Industry Education Foundation was created to support leadership development and education programs for middle school and high schools students. The foundation is funded primarily through the support of Missouri's business community. Over the past several years the Missouri Chamber has been a partner in Missouri's STEM activities both as a member of the Missouri METS (Math, Engineering, Technology and Science) Coalition and through advocacy efforts with legislators.

We are supportive of the Department of Education's Race to the Top proposal and support their focus on providing supports for teachers and leaders as well as their efforts to enhance STEM programs in Missouri.

The Missouri Chamber looks forward to working with the Department of Education's as they develop and implement bold reforms in Missouri education system.

Sincerely,

(b)(6)

Daniel P. Mehan
President/CEO

428 East Capitol | P.O. Box 149 | Jefferson City, MO 65102-0149 | Phone: 573-634-3511 | Fax: 573-634-8855
www.mochamber.com

SPRINGFIELD®
Area Chamber Of Commerce
Springfield, Missouri U.S.A.

James B. Anderson, CCE
President

"Everywhere Should Be Like This"

May 12, 2010

To Whom It May Concern:

I am writing to express my personal support for the Missouri Department of Education's application for the Race to the Top grant.

The educational achievement of today's workforce will directly impact the vitality of the Springfield region and businesses across Missouri. Investments in education and bold reforms that will assist schools, teachers and students are critical. The Missouri Department of Education's proposal for the Race to the Top grant is an important effort to assist Missouri students and prepare them for the global economy. As a member of the Springfield community, I wholeheartedly support the Missouri Department of Education's application for the Race to the Top grant.

The Springfield Area Chamber of Commerce believes Missouri has many strong programs throughout the state and is well-suited for effective use of this grant. Missouri's proposal will help move Missouri students forward.

The Springfield Area Chamber of Commerce 2010 State Legislative Agenda focuses on investments in education, including early childhood and STEM programs. We certainly wish to lend our support and involvement in assuring this program, if funded, becomes a major success story.

Sincerely

(b)(6)

James B. Anderson
President

John Q. Hammons Enterprise Center • 202 South John Q. Hammons Parkway • P.O. Box 1687 • Springfield, Missouri 65801-1687
417.862.5567 • fax: 417.862.1611 • e-mail: info@springfieldchamber.com • website: www.springfieldchamber.com

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Phone: 314-977-2479
Fax: 314-977-3290
www.slu.edu

College of Education and Public Service
Office of the Dean

02/18/09

To Whom It May Concern:

The United States Department of Education's invitation for states to participate in the Race to the Top (RT3) competition is an outstanding opportunity for Missouri to build on strengths, extend existing reform work, and develop a comprehensive plan for improving our educational system. Such efforts will bring systemic educational reform that will directly impact Missouri students. As a result, successful transition from early childhood through post-secondary education and into the workforce will permit equitable competition in the global economy and benefit our entire citizenry.

More than just a request for federal funding, the RT3 proposal will present a statewide vision and innovative plan for systemic educational reform in Missouri over the next decade. As a major Missouri stakeholder, the College of Education and Public Service at Saint Louis University enthusiastically supports the development of the RT3 application and subsequent implementation of a comprehensive and seamless education system.

Our faculty, departments and centers will work with the Missouri Department of Education and our other numerous state partners to produce the healthy and highly educated workforce needed to launch Missouri, and our nation, into a prosperous future. Your consideration on behalf of Missouri's children will be appreciated.

Sincerely,

John Watzke, Ph.D.
Interim Dean

University of Missouri St. Louis

Office of the Chancellor

Dept. of Elementary & Secondary Education
Office of the Commissioner of Education

May 4, 2010

To Whom It May Concern:

The University of Missouri–St. Louis urges the staff of the Missouri Department of Education to develop a comprehensive plan for improving our educational system so that the state will compete favorably for the United States Department of Education's Race to the Top (RT3) initiative. RT3 provides the opportunity to design a statewide vision and innovative plan for systemic change to education in Missouri over the next decade.

As the state's most diverse university, UMSL's goal is to produce college graduates that reflect Missouri's demographics. We applaud efforts that will produce high school graduates who arrive on our selective campus ready for college-level work. For this reason, we enthusiastically support the development of the foundational work necessary for a successful RT3 application to assure that every child in Missouri has access to a strong education.

Sincerely,

Thomas F George

Thomas F. George
Chancellor

One University Boulevard
St. Louis, Missouri 63121-4400
314-516-5252
Fax: 314-516-5378

an equal opportunity institution

MISSOURI STATE BOARD OF EDUCATION AGENDA ITEM: **December 2009**

CONSIDERATION OF ATTACHING THE WELLSTON SCHOOL DISTRICT TO THE NORMANDY SCHOOL DISTRICT

STATUTORY AUTHORITY:	☐ Consent Item	☒ Action Item	☐ Report Item
161.092 and 162.081, RSMo			

COMMISSIONER'S GOALS NO. 1:

Missouri students will rank in the top 10 as measured by the National Assessment of Educational Progress (NAEP) and other national and international measures of accountability.

SUMMARY:

The State Board of Education previously classified the Wellston School District as unaccredited as a result of the district's performance indicators under the third cycle of the Missouri School Improvement Program, effective June 30, 2003. Pursuant to Section 162.081.1 RSMo, any school district that is classified as unaccredited shall lapse on June 30 of the second full school year after the school year during which an unaccredited classification is assigned. The Wellston School District was subject to lapse as of June 30, 2005. The State Board chose, at that time, to appoint a special administrative board (SAB) for purposes of operating the district.

Since that time, Wellston School District has made some improvements; however, progress has been very slow.

The Department has held meetings with community leaders in both Wellston and Normandy. Normandy School District offers many advantages for current and future Wellston students, and consolidation of Wellston into the Normandy School District offers the best long-term prospect for improving academic achievement for those students.

RECOMMENDATION:

The Commissioner recommends that the Wellston School District be attached to the Normandy School District, effective July 1, 2010.

Overview

Since 2003, when the Wellston School District became unaccredited, the district and the community have struggled to get back on a positive course. Although some progress has been made in this effort, the district has faced daunting challenges over the past six years – challenges which are common to urban districts throughout America.

Under the leadership of the Special Administrative Board and Superintendent Dr. Charles Brown, Wellston's precarious financial situation has improved, the graduation rate has improved slightly, and the climate within the school and community also has improved. Families have gained enough confidence in the Wellston schools that they have brought their children back from other districts.

Despite these gains, the long-term prospects for Wellston are not encouraging. The district's financial base is weak and unlikely to improve in the near term. The district's facilities need extensive renovation or replacement, but the district lacks the resources to undertake such projects. The district's academic performance indicators, as measured by the Annual Performance Report, have shown little change.

For these reasons, state and local leaders have come to the conclusion that the best next step for the Wellston School District and its community is to join the Wellston district to the neighboring Normandy School District.

We believe the Normandy District has many advantages and opportunities to offer to the students and families of Wellston. Most importantly, Normandy offers the best, long-term prospect for an environment that offers students more options and enhanced opportunities for improved academic achievement.

Governance Options for the Wellston School District

Mo. Rev. Stat. § 162.081.1 provides that a public school district shall lapse if: (1) the school district fails to provide for the minimum school term; or (2) the school district is classified as unaccredited for two successive school years by the State Board of Education. Any school district that is classified as unaccredited shall lapse on June 30 of the second full school year after the school year during which the unaccredited classification was assigned. On July 1, 2003, the Wellston School District was classified as unaccredited by the State Board of Education. Since the district's lapse on June 30, 2005, the Wellston School District has been governed by a special administrative board. The following options are currently available for the future governance of the Wellston School District.

Options for Governance of a Lapsed School District

Special Administrative Board: The State Board of Education may continue to reappoint a Special Administrative Board (SAB) for operational purposes for up to three years or until the lapsed district is reassigned. The SAB would continue to be responsible for the accounting of all funds, assets, and liabilities of the lapsed district and for the general operation of the district until final disposition by the State Board of Education.

The SAB has allowed critical instructional and financial issues within the Wellston district to be addressed. Although SAB appointment has been treated as a transitional process leading to local governance, reappointment would be an option if additional time is needed to implement key reforms.

Establish a District or Districts within the Lapsed District: The State Board of Education may, for operational purposes, establish one or more school districts within the territory of the lapsed district, while permitting the district to remain intact for the purposes of assessing, collecting, and distributing property taxes. Such an action would take effect 60 days after the adjournment of the regular session of the General Assembly following the decision to establish the new districts. The General Assembly could suspend the action of the State Board of Education by adopting a statute or concurrent resolution nullifying the creation of the new districts.

The geographic size, student enrollment and financial condition of the Wellston School District preclude restructuring into multiple districts as a viable option.

Return to Local Governance: The State Board of Education is authorized to establish a process for returning the lapsed district to local governance. The process begins with the appointment of additional members to the Special Administrative Board. A final

term of office for all SAB members is set, after which a successor member must be elected by the voters of the school district. At the point where the State Board of Education appoints a successor member to replace the chair of the SAB, the current members of the special administrative board may appoint a superintendent of schools and contract for his or her services.

A return to local governance through a locally elected board would be predicated on a determination that, based upon enrollment trends, financial projections, and future student needs, the Wellston School District could continue to be a viable school district.

Attachment: After appointment of the SAB, or in lieu thereof, the State Board of Education may attach the territory of the lapsed district to another district or districts. Mo. Rev. Stat. §162.081.10 provides that, in the event that a school district with an enrollment in excess of 5,000 pupils lapses, no school district shall have all or any part of such lapsed school district attached without the approval of the local board of the receiving school district.

Attachment would be the next logical step if it is determined that long-term projections do not point to Wellston's viability as a separate district. Enrollment trends, financial projections, and future student needs would weigh heavily in this determination. Given the current condition of the school buildings and the lack of available options for either renovation or replacement of those facilities, attachment of the Wellston School District to a neighboring district may be the most reasonable option for the district and the community.

Sources: Mo. Rev. Stat. §§ 162.081, 162.083 (Attached)

Current Financial Summary

Tuition Payments: When the Wellston School District lapsed and the Special Administrative Board began operation of school programs, one of the major challenges was addressing the financial condition of the district. When the Wellston School District lost accreditation on July 1, 2003, the district became responsible for paying tuition for students in the district who transferred to neighboring accredited districts. Prior to SAB operation, no payments had been made to other school districts for this obligation.

As of October 2009, the total tuition charges have been $3,288,769.42. As of June 30, 2009, the SAB has authorized $2,786,694.17 in tuition payments, leaving a balance of $502,075.25. The following obligations remain:

Clayton School District	$122,477.53
Ritenour School District	$369,562.00
Webster Groves School District	$ 10,035.72

Although the Wellston School District may incur new tuition costs for the 2009-10 school year, the SAB's goal is to repay all tuition obligations by the end of the 2009-10 fiscal year.

Current Fund Balances: Payment of tuition cost has had a significant impact on Wellston's fund balances. Following is a statement of the fund balances and percentages for the teachers and incidental funds from 2004 to 2009 as of June 30 of each year:

Fiscal Year	Fund Balance	Percentage
2003-04	$263,239.47	3.24%
2004-05	$886,000.86	12.83%
2005-06	$468,389.72	5.86%
2006-07	$584,601.51	6.89%
2007-08	$403,692.99	4.79%
2008-09	$343,639.23	4.36%

The decline in operational fund balances has been a result of the efforts of the SAB to retire the tuition obligation of the district. The sharp increase in balances for FY 2003-04 was a direct result of the district failing to make tuition payments in the year prior to operation by the SAB. In all subsequent years, the district has maintained a small, but acceptable fund balance, and has never been classified as financially stressed.

By making significant progress in addressing the tuition obligations, while maintaining the financial viability of the school district, the SAB has reached its goal of stabilizing the financial affairs of the Wellston School District.

Missouri Revised Statutes

Chapter 162
School Districts
Section 162.081

August 28, 2009

Lapse of district corporate organization, grounds, effect--hearing prior to determination of attachment of territory of lapsed district--special administrative board--employment interviews for teacher of lapsed district, when--division of district, vote, when.

162.081. 1. Whenever any school district in this state fails or refuses in any school year to provide for the minimum school term required by section 163.021, RSMo, or is classified unaccredited for two successive school years by the state board of education, its corporate organization shall lapse. The corporate organization of any school district that is classified as unaccredited shall lapse on June thirtieth of the second full school year of such unaccredited classification after the school year during which the unaccredited classification is initially assigned. The territory theretofore embraced within any district that lapses pursuant to this section or any portion thereof may be attached to any district for school purposes by the state board of education; but no school district, except a district classified as unaccredited pursuant to section 163.023, RSMo, and section 160.538, RSMo, shall lapse where provision is lawfully made for the attendance of the pupils of the district at another school district that is classified as provisionally accredited or accredited by the state board of education.

2. Prior to or at the time any school district in this state shall lapse, but after the school district has been classified as unaccredited, the department of elementary and secondary education shall conduct a public hearing at a location in the unaccredited school district. The purpose of the hearing shall be to:

(1) Review any plan by the district to return to accredited status; or

(2) Offer any technical assistance that can be provided to the district.

3. Except as otherwise provided in section 162.1100, in a metropolitan school district or an urban school district containing most or all of a city with a population greater than three hundred fifty thousand inhabitants and in any other school district if the local board of education does not anticipate a return to accredited status, the state board of education may appoint a special administrative board to supervise the financial operations, maintain and preserve the financial assets or, if warranted, continue operation of the educational programs

within the district or what provisions might otherwise be made in the best interest of the education of the children of the district. The special administrative board shall consist of two persons who are residents of the school district, who shall serve without compensation, and a professional administrator, who shall chair the board and shall be compensated, as determined by the state board of education, in whole or in part with funds from the district.

4. Upon lapse of the district, the state board of education may:

(1) Appoint a special administrative board, if such a board has not already been appointed, and authorize the special administrative board to retain the authority granted to a board of education for the operation of all or part of the district;

(2) Attach the territory of the lapsed district to another district or districts for school purposes; or

(3) Establish one or more school districts within the territory of the lapsed district, with a governance structure consistent with the laws applicable to districts of a similar size, with the option of permitting a district to remain intact for the purposes of assessing, collecting, and distributing property taxes, to be distributed equitably on a weighted average daily attendance basis, but to be divided for operational purposes, which shall take effect sixty days after the adjournment of the regular session of the general assembly next following the state board's decision unless a statute or concurrent resolution is enacted to nullify the state board's decision prior to such effective date.

The special administrative board may retain the authority granted to a board of education for the operation of the lapsed school district under the laws of the state in effect at the time of the lapse.

5. The authority of the special administrative board shall expire at the end of the third full school year following its appointment, unless extended by the state board of education. If the lapsed district is reassigned, the special administrative board shall provide an accounting of all funds, assets and liabilities of the lapsed district and transfer such funds, assets, and liabilities of the lapsed district as determined by the state board of education.

6. Upon recommendation of the special administrative board, the state board of education may assign the funds, assets and liabilities of the lapsed district to another district or districts. Upon assignment, all authority of the special administrative board shall transfer to the assigned districts.

7. Neither the special administrative board nor any district or other entity assigned territory, assets or funds from a lapsed district shall be considered a successor entity for the purpose of

employment contracts, unemployment compensation payment pursuant to section 288.110, RSMo, or any other purpose.

8. If additional teachers are needed by a district as a result of increased enrollment due to the annexation of territory of a lapsed or dissolved district, such district shall grant an employment interview to any permanent teacher of the lapsed or dissolved district upon the request of such permanent teacher.

9. (1) The governing body of a school district, upon an initial declaration by the state board of education that such district is provisionally accredited, may, and, upon an initial declaration by the state board of education that such district is unaccredited, shall develop a plan to be submitted to the voters of the school district to divide the school district if the district cannot attain accreditation within three years of the initial declaration that such district is unaccredited. In the case of such a district being declared unaccredited, such plan shall be presented to the voters of the district before the district lapses. In the case of such a district being declared provisionally accredited, such plan may be presented before the close of the current accreditation cycle.

(2) The plan may provide that the school district shall remain intact for the purposes of assessing, collecting and distributing taxes for support of the schools, and the governing body of the district shall develop a plan for the distribution of such taxes equitably on a per-pupil basis if the district selects this option.

(3) The makeup of the new districts shall be racially balanced as far as the proportions of students allow.

(4) If a majority of the district's voters approve the plan, the state board of education shall cooperate with the local board of education to implement the plan, which may include use of the provisions of this section to provide an orderly transition to new school districts and achievement of accredited status for such districts.

10. In the event that a school district with an enrollment in excess of five thousand pupils lapses, no school district shall have all or any part of such lapsed school district attached without the approval of the board of the receiving school district.

Missouri Revised Statutes

Chapter 162
School Districts
Section 162.083

August 28, 2009

Special administrative board, additional members authorized--term of office--return to local governance, when.

162.083. 1. The state board of education may appoint additional members to any special administrative board appointed under section 162.081.

2. The state board of education may set a final term of office for any member of a special administrative board, after which a successor member shall be elected by the voters of the district.

(1) All final terms of office for members of the special administrative board established under this section shall expire on June thirtieth.

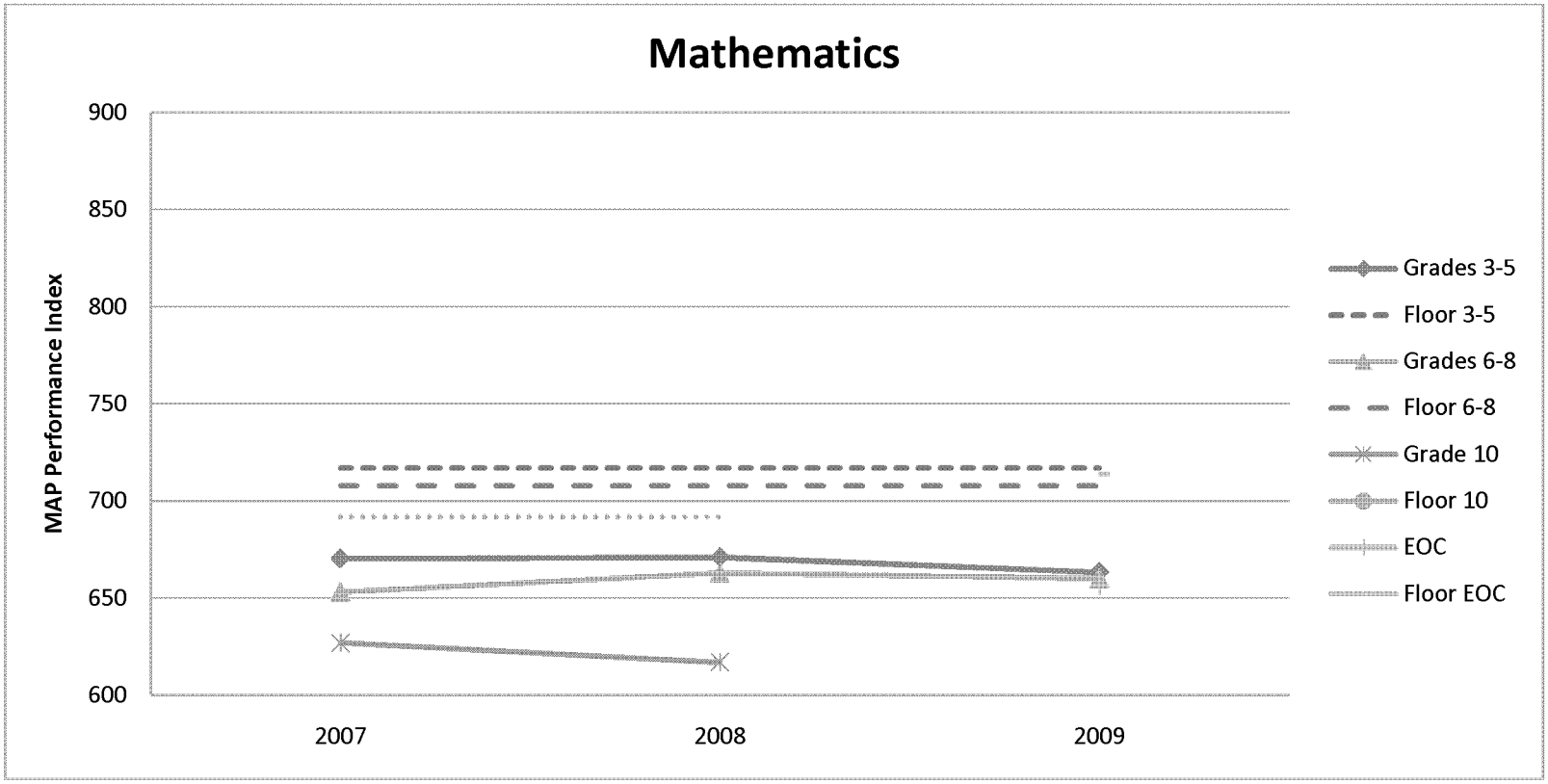
(2) The election of a successor member shall occur on the general municipal election day immediately prior to the expiration of the final term of office.

(3) The election shall be conducted in a manner consistent with the election laws applicable to the school district.

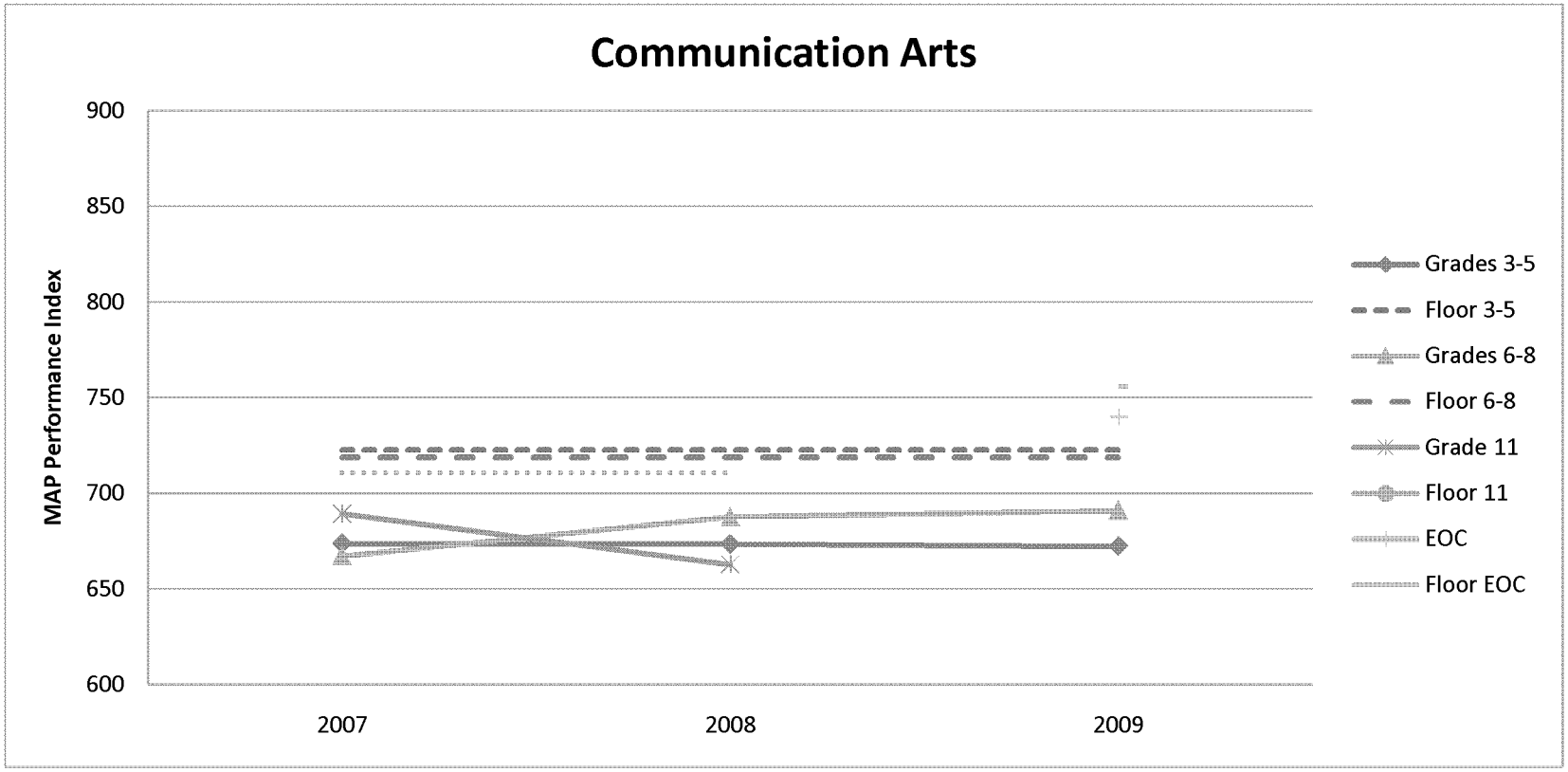
3. Nothing in this section shall be construed as barring an otherwise qualified member of the special administrative board from standing for an elected term on the board.

4. If the state board of education appoints a successor member to replace the chair of the special administrative board, the serving members of the special administrative board shall be authorized to appoint a superintendent of schools and contract for his or her services.

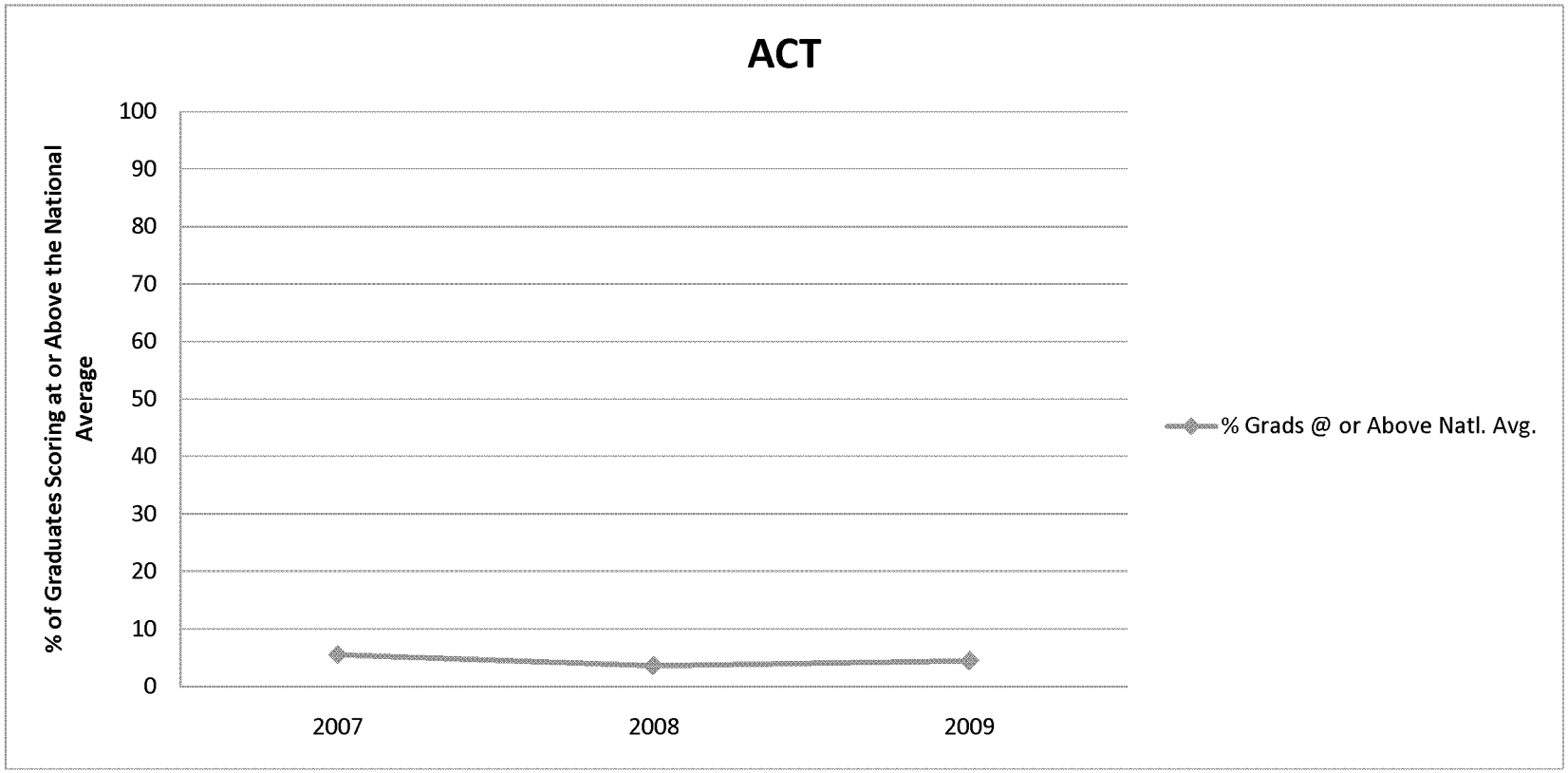
5. On a date set by the state board of education, any district operating under the governance of a special administrative board shall return to local governance, and continue operation as a school district as otherwise authorized by law.



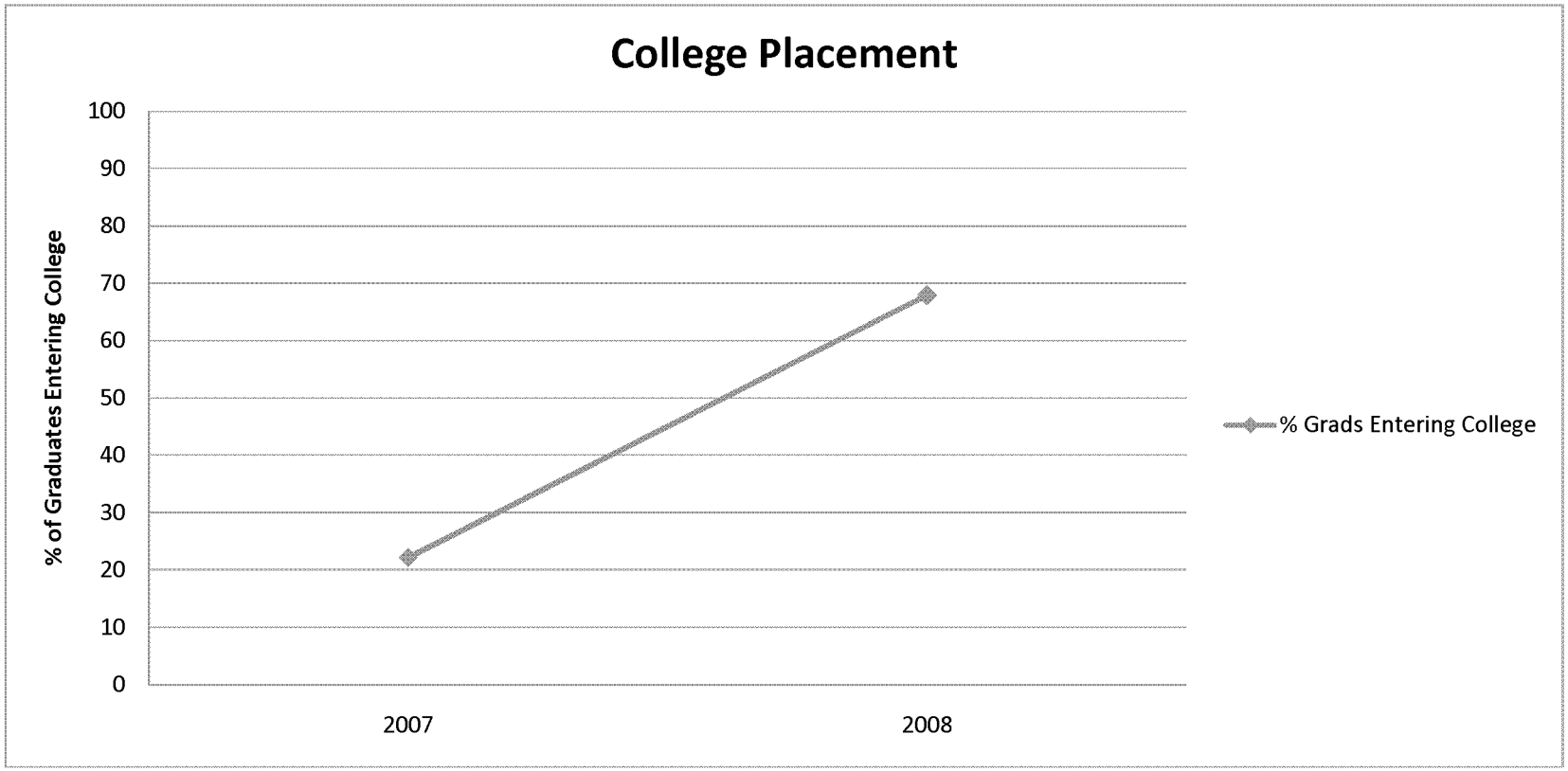
	Grades 3-5	Floor 3-5	Grades 6-8	Floor 6-8	Grade 10	Floor 10	EOC	Floor EOC
2007	670.4	716.9	653.3	707.9	627	691.9		
2008	671.2	716.9	663.1	707.9	617	691.9		
2009	663.4	716.9	660.2	707.9			656.4	713.9



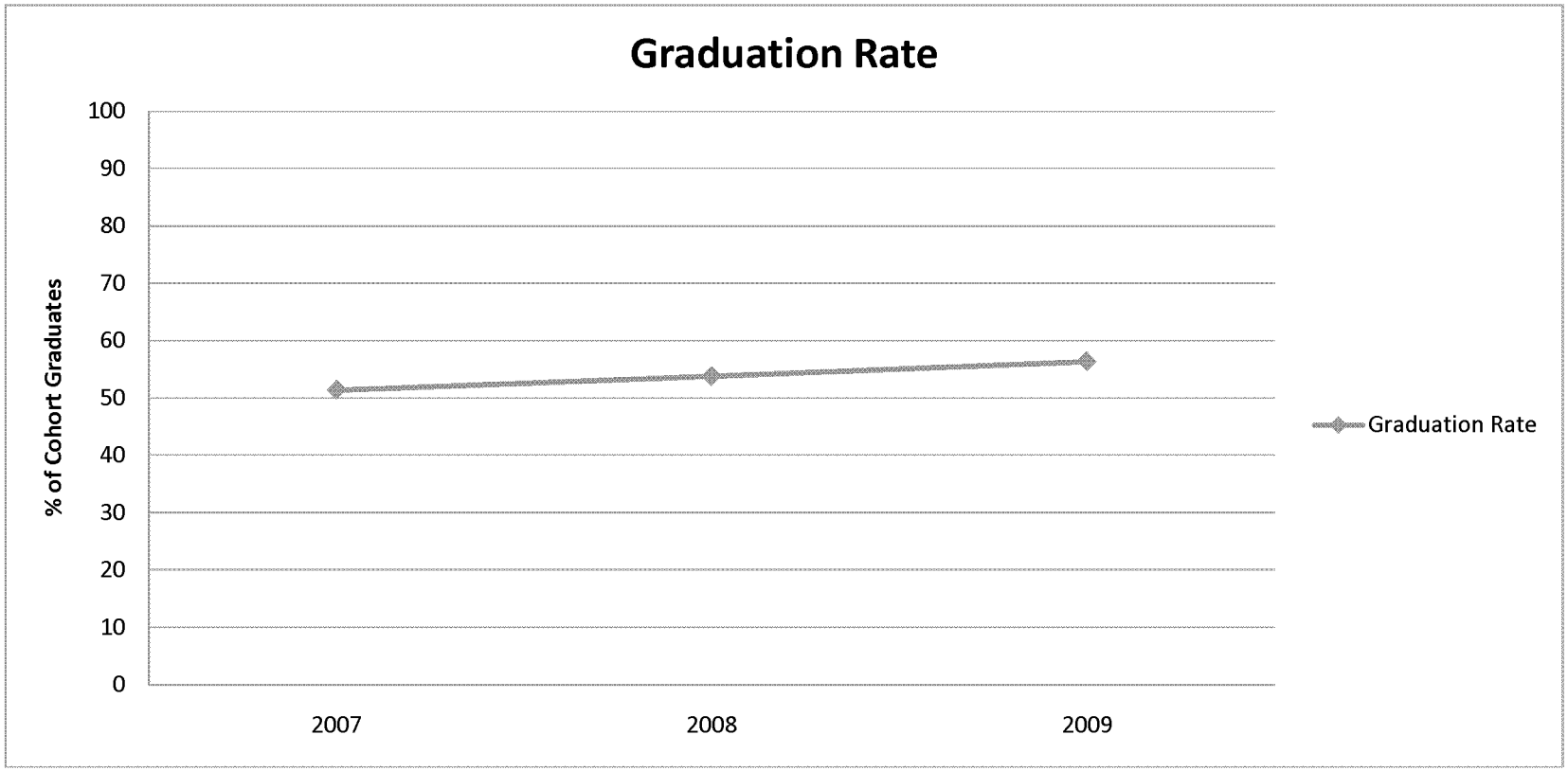
	Grades 3-5	Floor 3-5	Grades 6-8	Floor 6-8	Grade 11	Floor 11	EOC	Floor EOC
2007	673.9	722.9	667.3	718.9	689.5	710.9		
2008	673.4	722.9	687.7	718.9	663	710.9		
2009	672.4	722.9	691.2	718.9			740	755.9



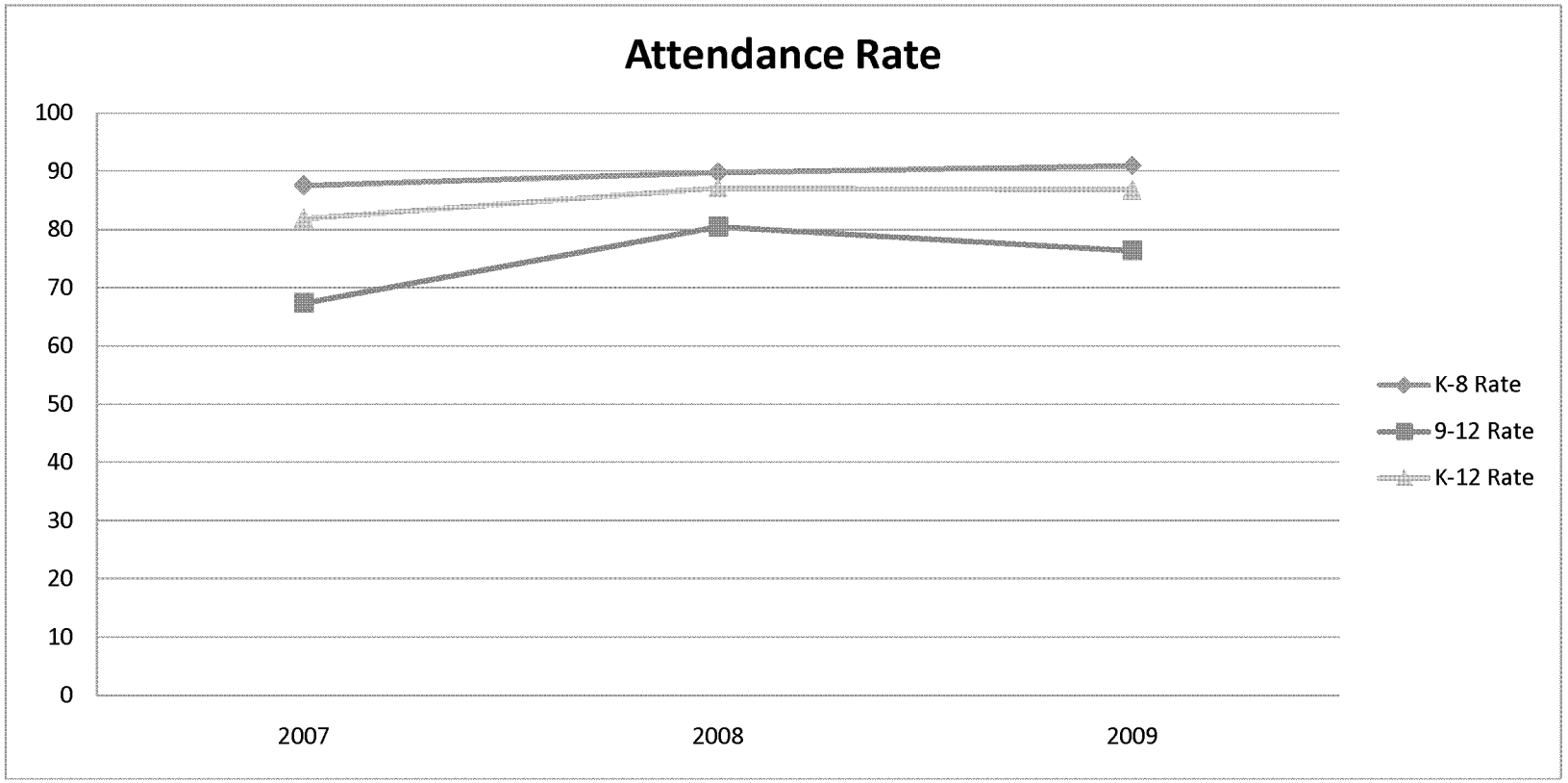
	% Grads Scoring at or Above the Natl. Avg.	Number of Graduates	Number of Graduates Scoring at or Above the Natl. Avg
2007	5.6	18	1
2008	3.6	28	1
2009	4.5	22	1



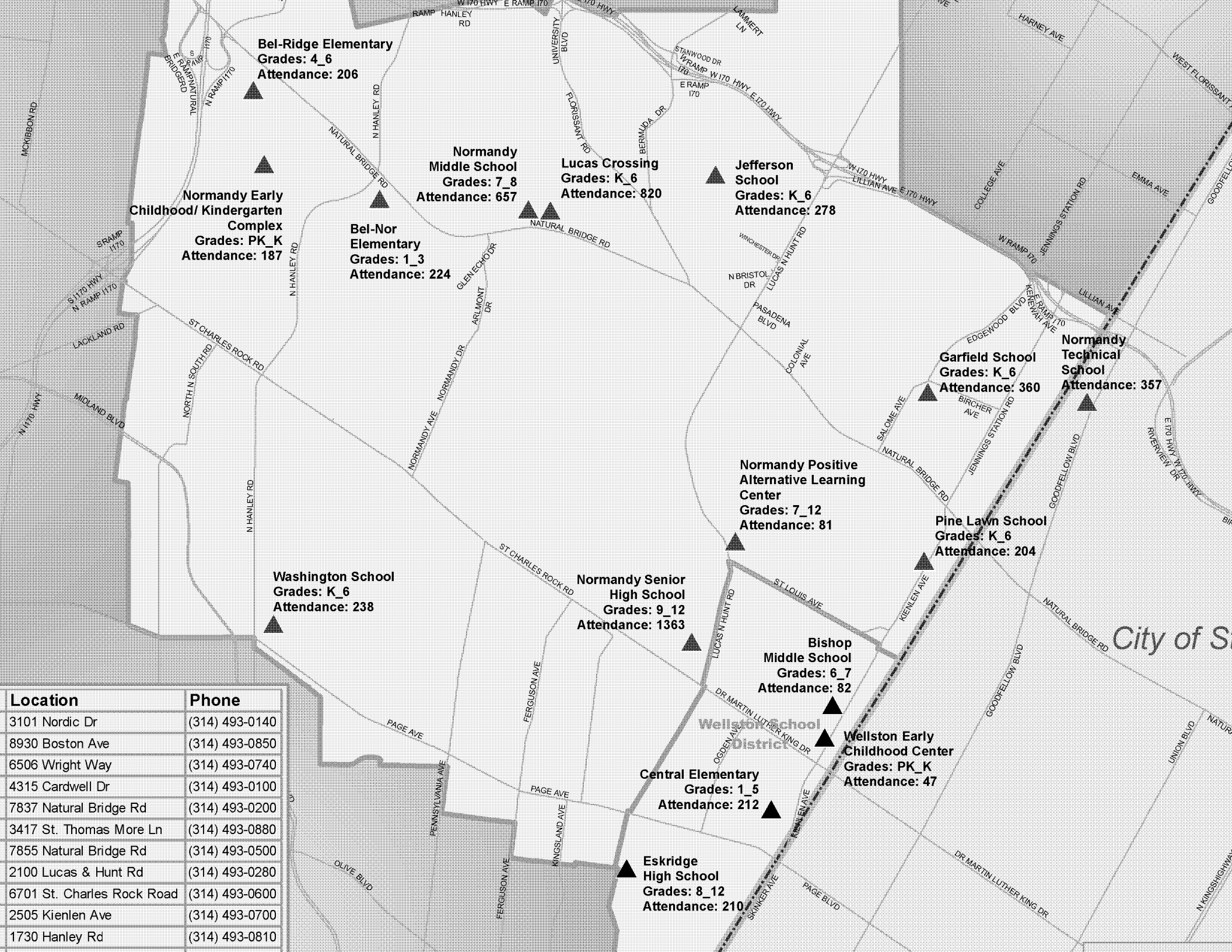
	% Grads Entering College	Number of Grads	% of Grads Entering College
2007	22.2	18	4
2008	67.9	28	19



	Graduation Rate	Number of Grads	Dropouts Plus Graduates
2007	51.4	18	35
2008	53.8	28	52
2009	56.4	22	39



	Attendance Rate		
	K-8 Rate	**9-12 Rate**	**K-12 Rate**
2007	87.6	67.4	81.9
2008	89.8	80.5	87.1
2009	91	76.4	86.8



Location	Phone
3101 Nordic Dr	(314) 493-0140
8930 Boston Ave	(314) 493-0850
6506 Wright Way	(314) 493-0740
4315 Cardwell Dr	(314) 493-0100
7837 Natural Bridge Rd	(314) 493-0200
3417 St. Thomas More Ln	(314) 493-0880
7855 Natural Bridge Rd	(314) 493-0500
2100 Lucas & Hunt Rd	(314) 493-0280
6701 St. Charles Rock Road	(314) 493-0600
2505 Kienlen Ave	(314) 493-0700
1730 Hanley Rd	(314) 493-0810

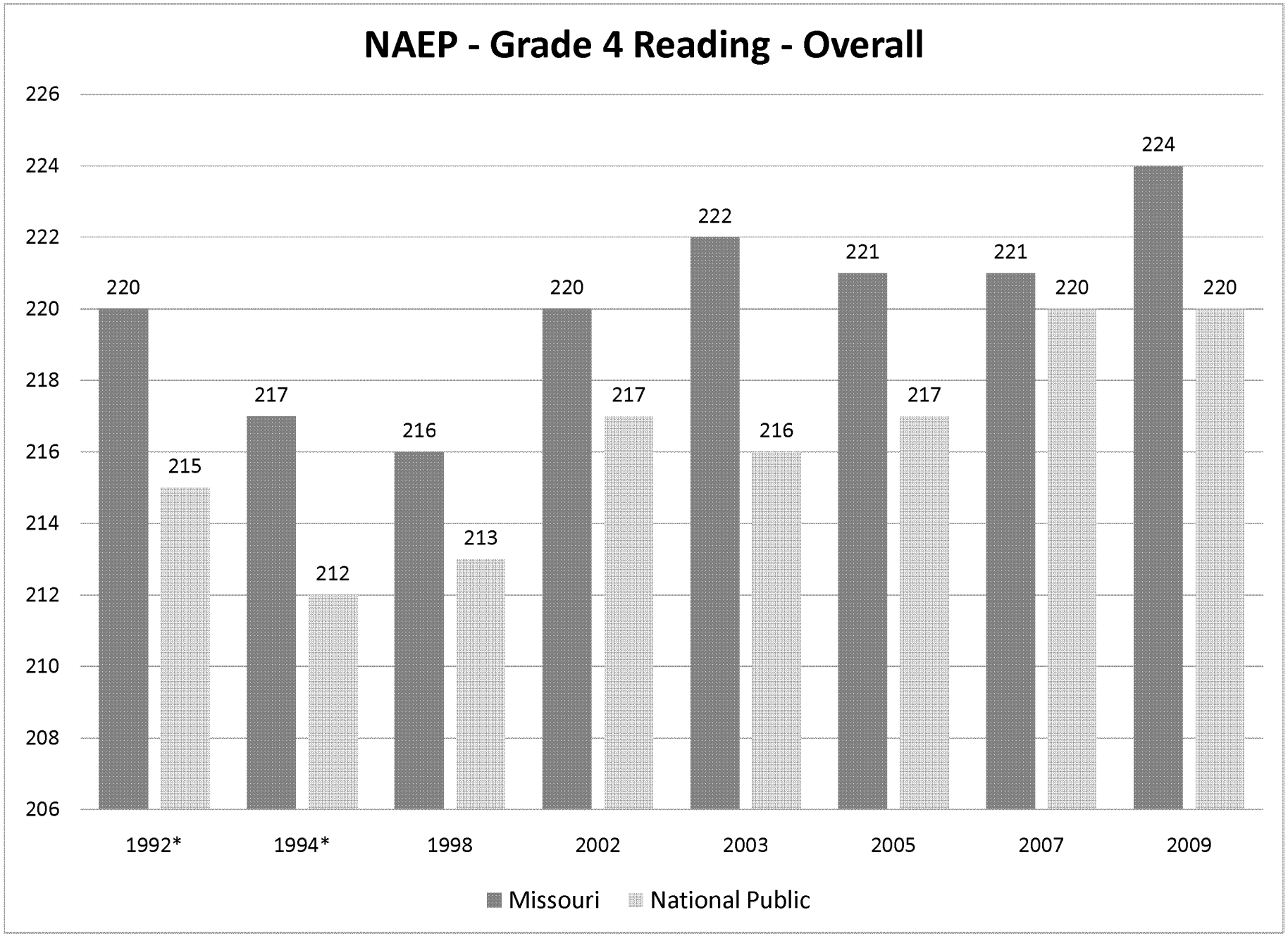
NAEP - Grade 4 Reading

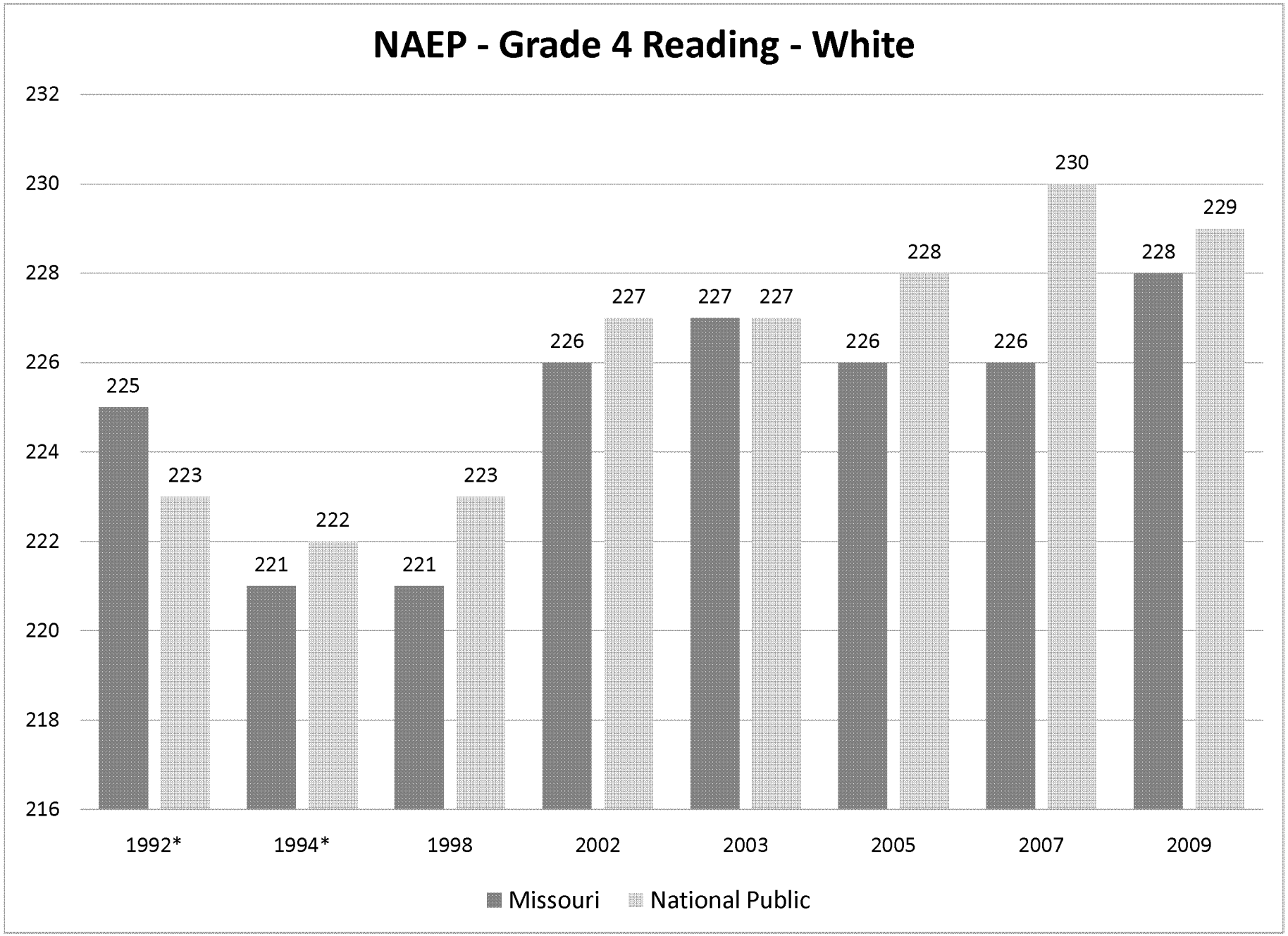
Missouri (Average Scale Score)

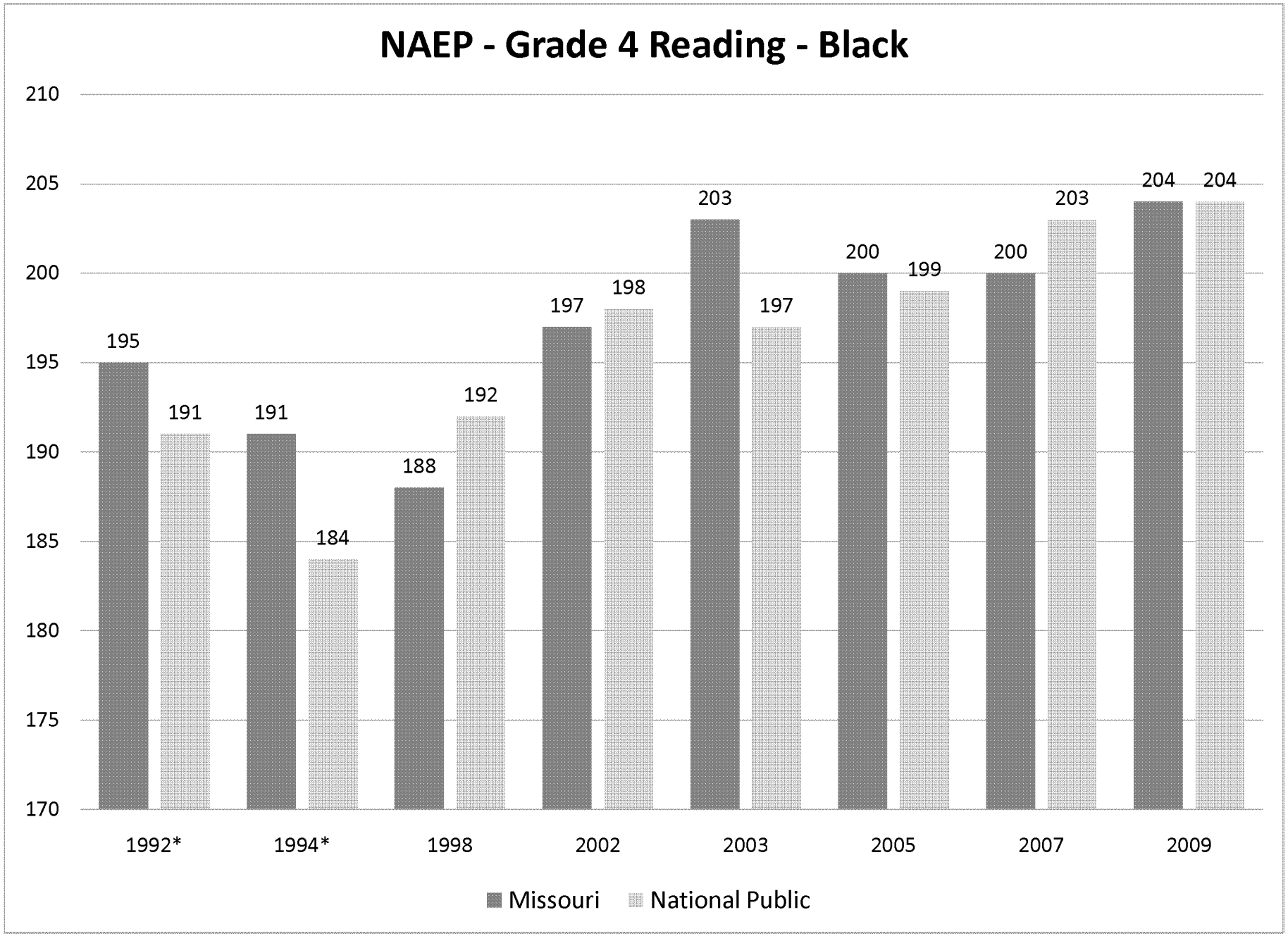
Year	Overall	White	Black	Hispanic	Free/ Reduced Lucnh	SD	ELL
1992*	220	225	195				
1994*	217	221	191				
1998	216	221	188		202	188	
2000							
2002	220	226	197		205	197	
2003	222	227	203	218	208	196	
2005	221	226	200	210	209	206	
2007	221	226	200	213	208	193	
2009	224	228	204	216	210	191	

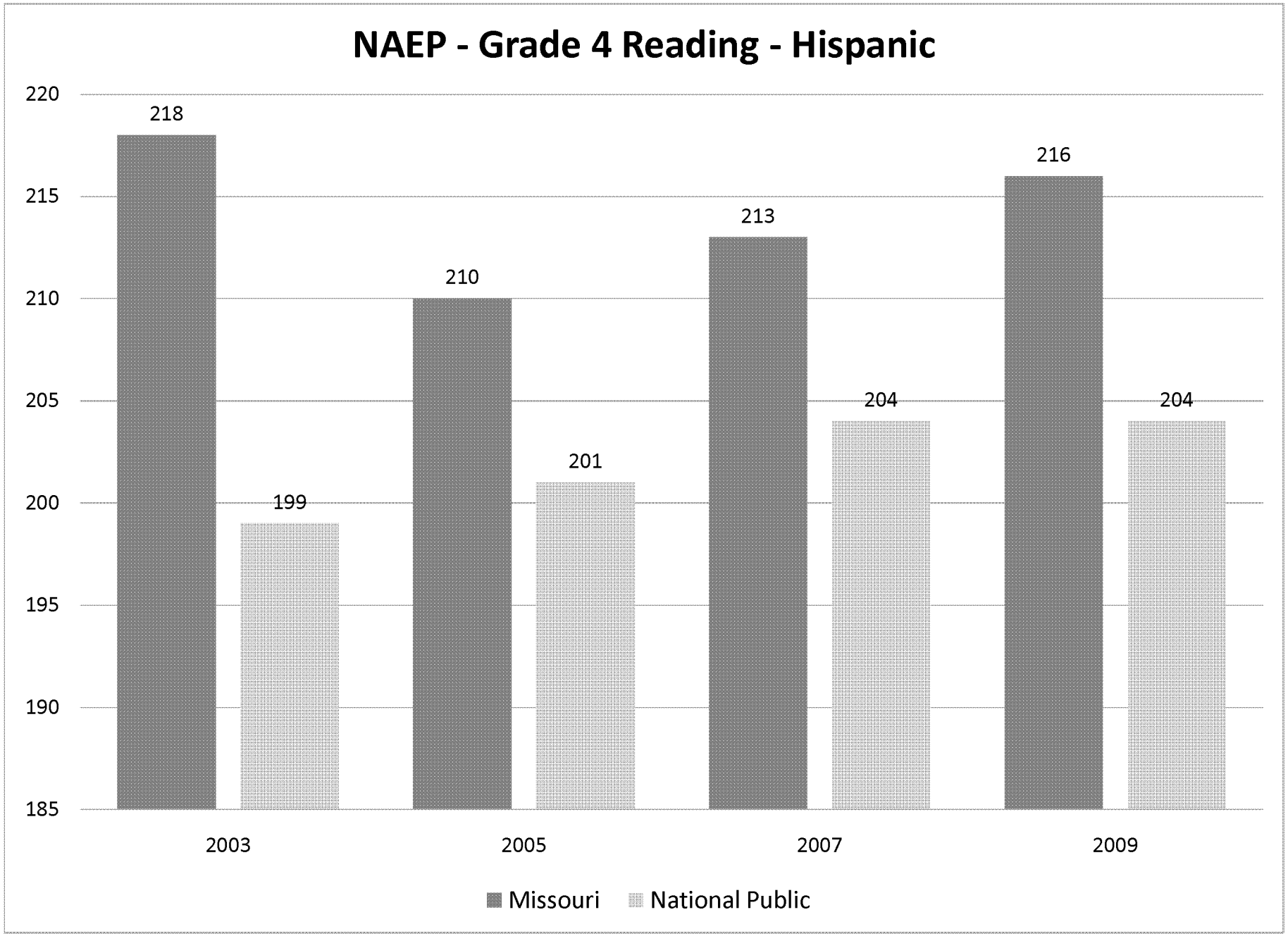
National Public (Average Scale Score)

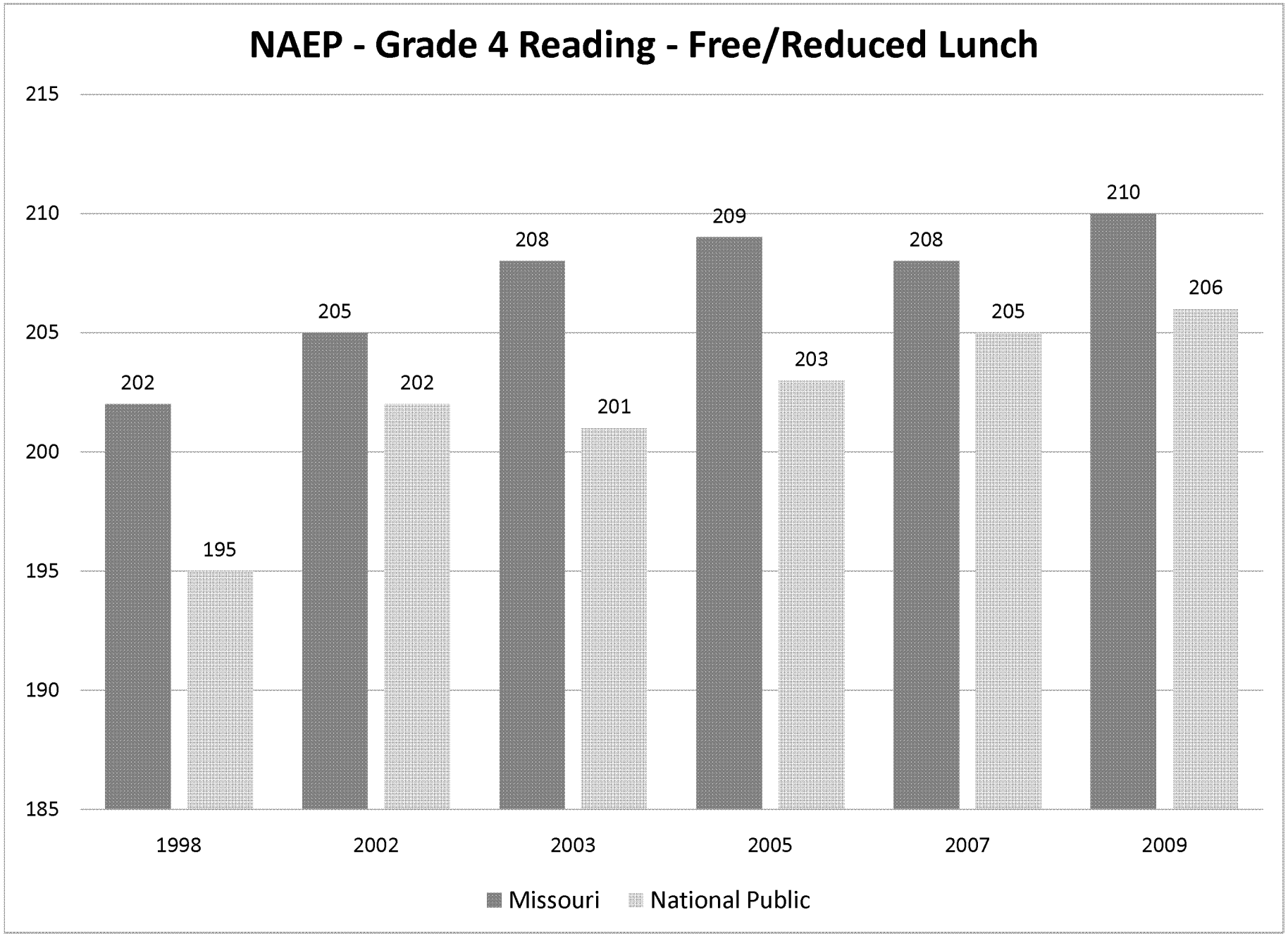
1992*	215	223	191	194			
1994*	212	222	184	186			
1998	213	223	192	192	195	176	174
2000	211	223	189	188	192	167	167
2002	217	227	198	199	202	187	183
2003	216	227	197	199	201	184	186
2005	217	228	199	201	203	190	187
2007	220	230	203	204	205	190	188
2009	220	229	204	204	206	189	188

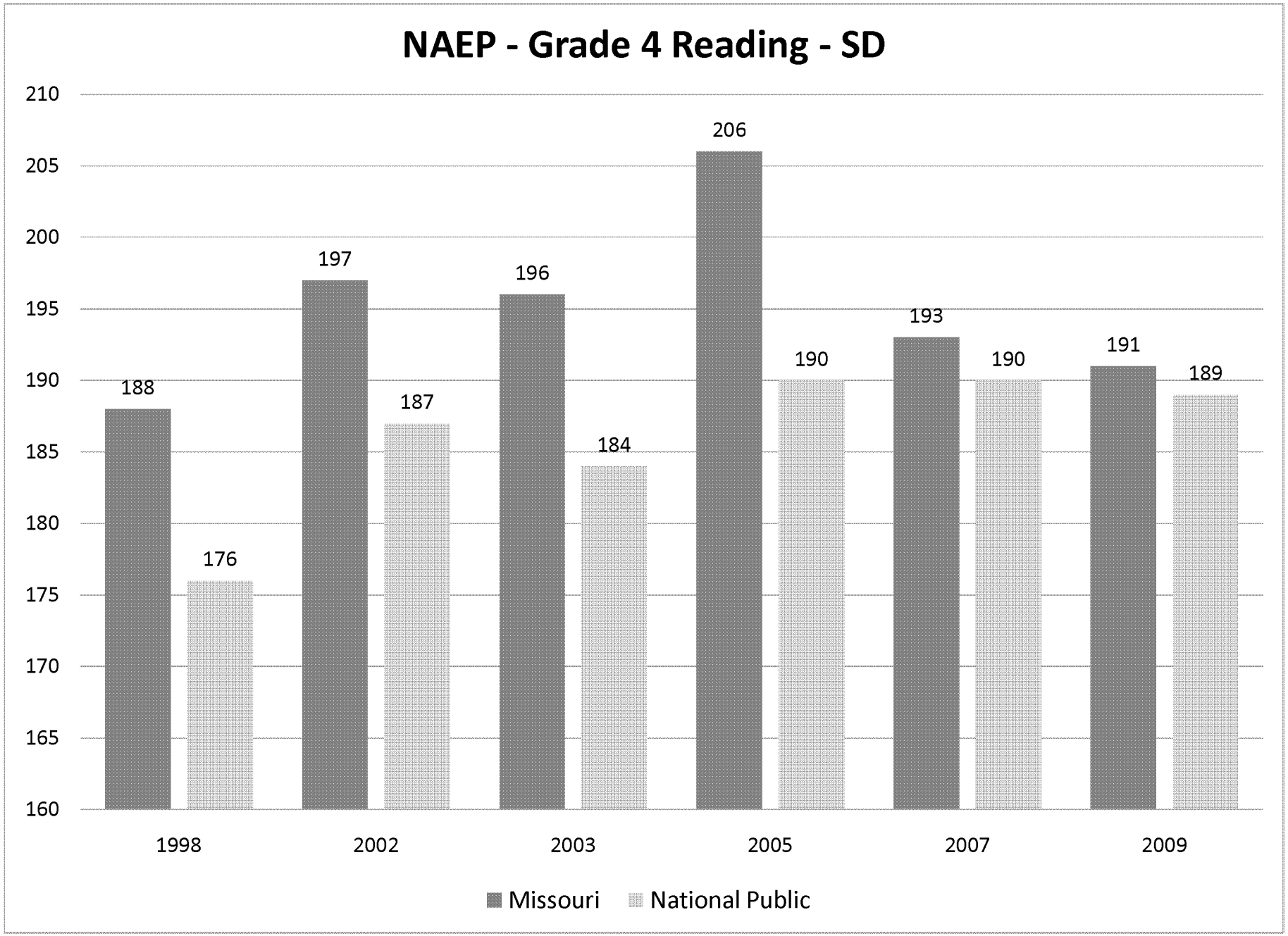

NAEP - Grade 4 Reading - Overall
226
224
222
220
218
216
214
212
210
208
206
220
215
217
212
216
213
220
217
222
216
221
217
221
220
224
220
1992*
1994*
1998
2002
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 4 Reading - White
232
230
228
226
224
222
220
218
216
225
223
221
222
221
223
226
227
227
227
226
228
226
230
228
229
1992*
1994*
1998
2002
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 4 Reading - Black
210
205
200
195
190
185
180
175
170
195
191
191
184
188
192
197
198
203
197
200
199
200
203
204
204
1992*
1994*
1998
2002
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 4 Reading - Hispanic
220
215
210
205
200
195
190
185
218
199
210
201
213
204
216
204
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 4 Reading - Free/Reduced Lunch
215
210
205
200
195
190
185
202
195
205
202
208
201
209
203
208
205
210
206
1998
2002
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 4 Reading - SD
210
205
200
195
190
185
180
175
170
165
160
188
176
197
187
196
184
206
190
193
190
191
189
1998
2002
2003
2005
2007
2009
Missouri
National Public

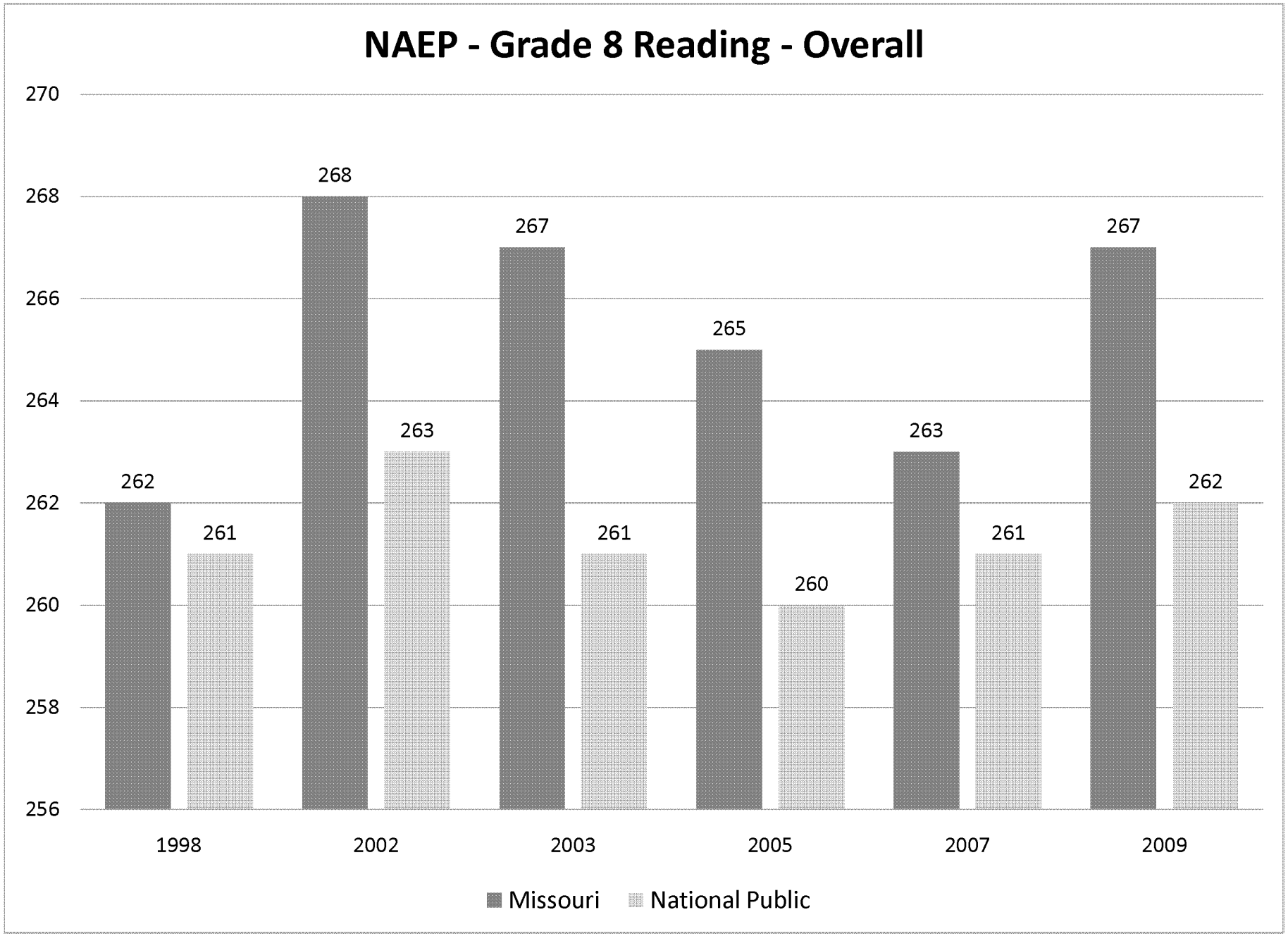
NAEP - Grade 8 Reading

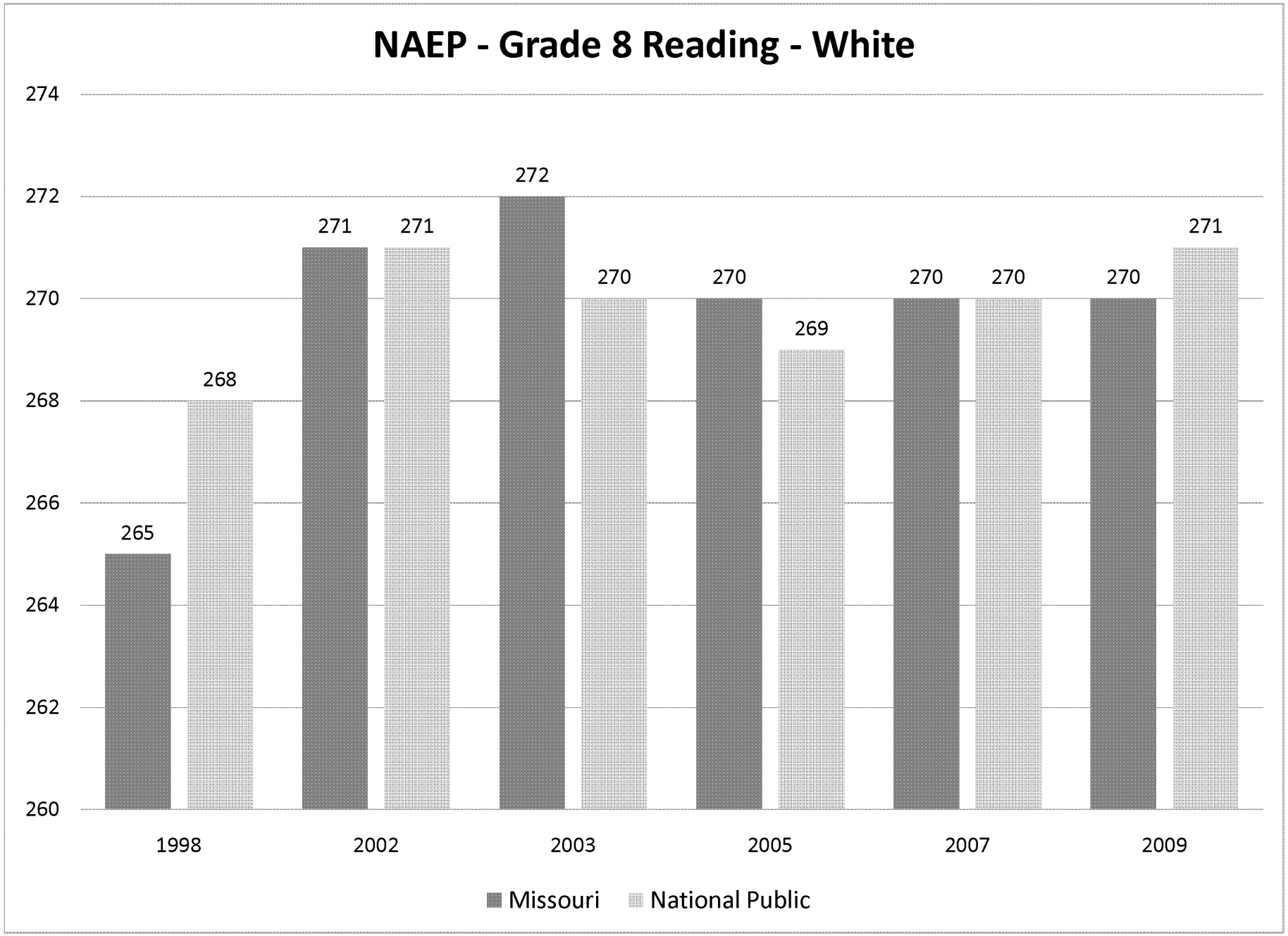
Missouri (Average Scale Score)

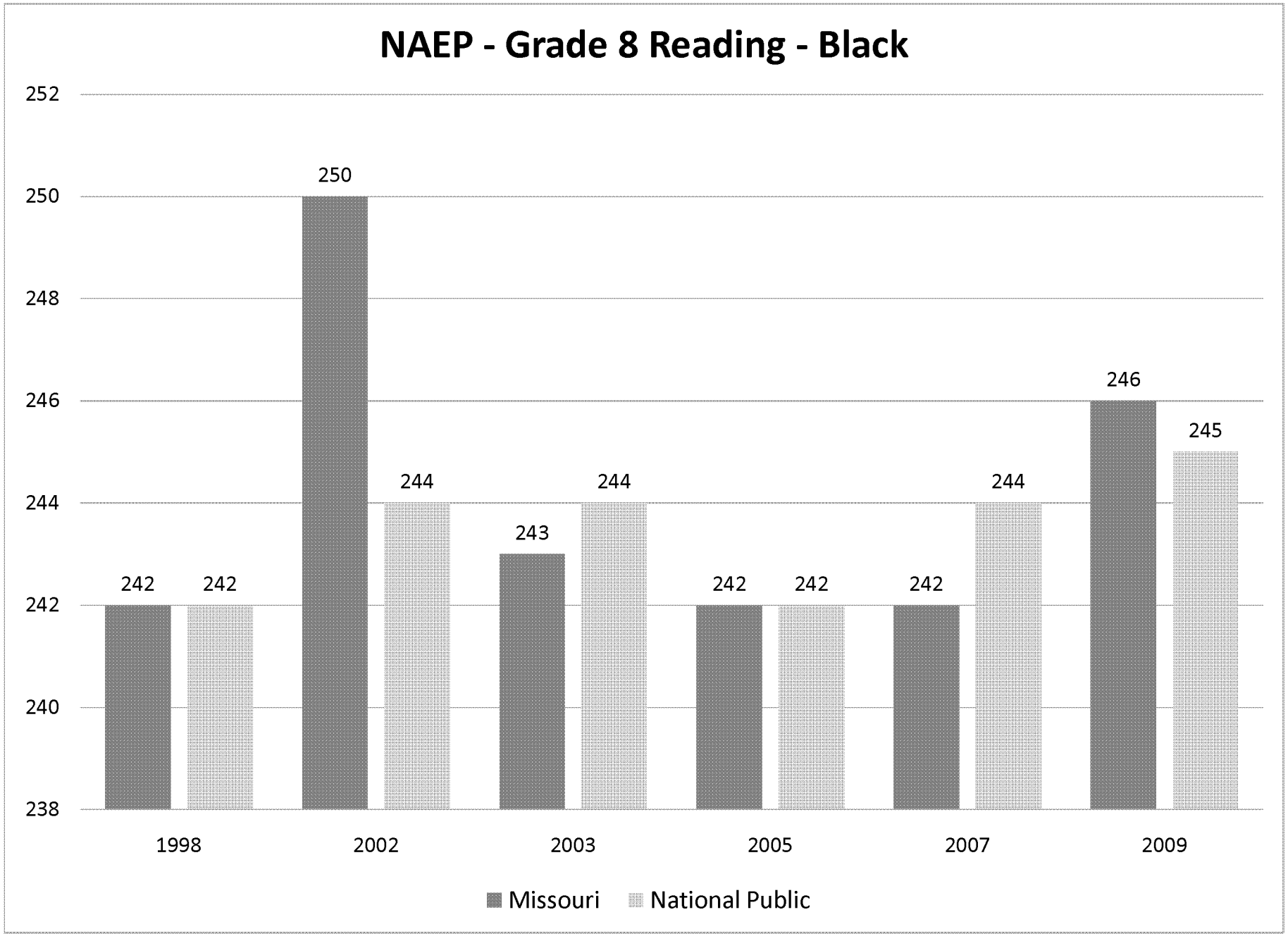
Year	Overall	White	Black	Hispanic	Free/ Reduced Lucnh	SD	ELL
1992*							
1994*							
1998	262	265	242		248	228	
2002	268	271	250		257	238	
2003	267	272	243		255	237	
2005	265	270	242	258	253	230	
2007	263	270	242	248	252	225	
2009	267	270	246	260	253	235	

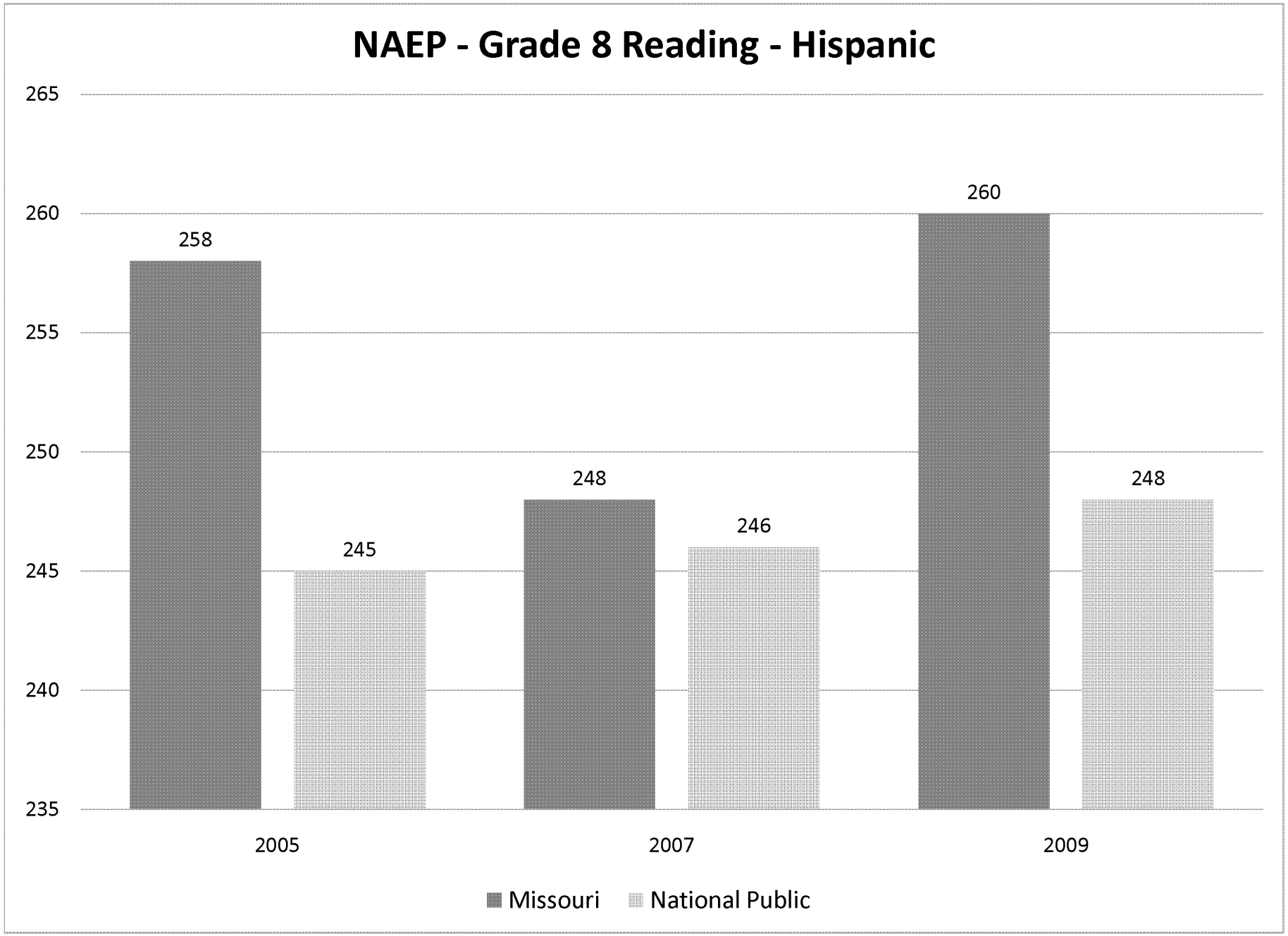
National Public (Average Scale Score)

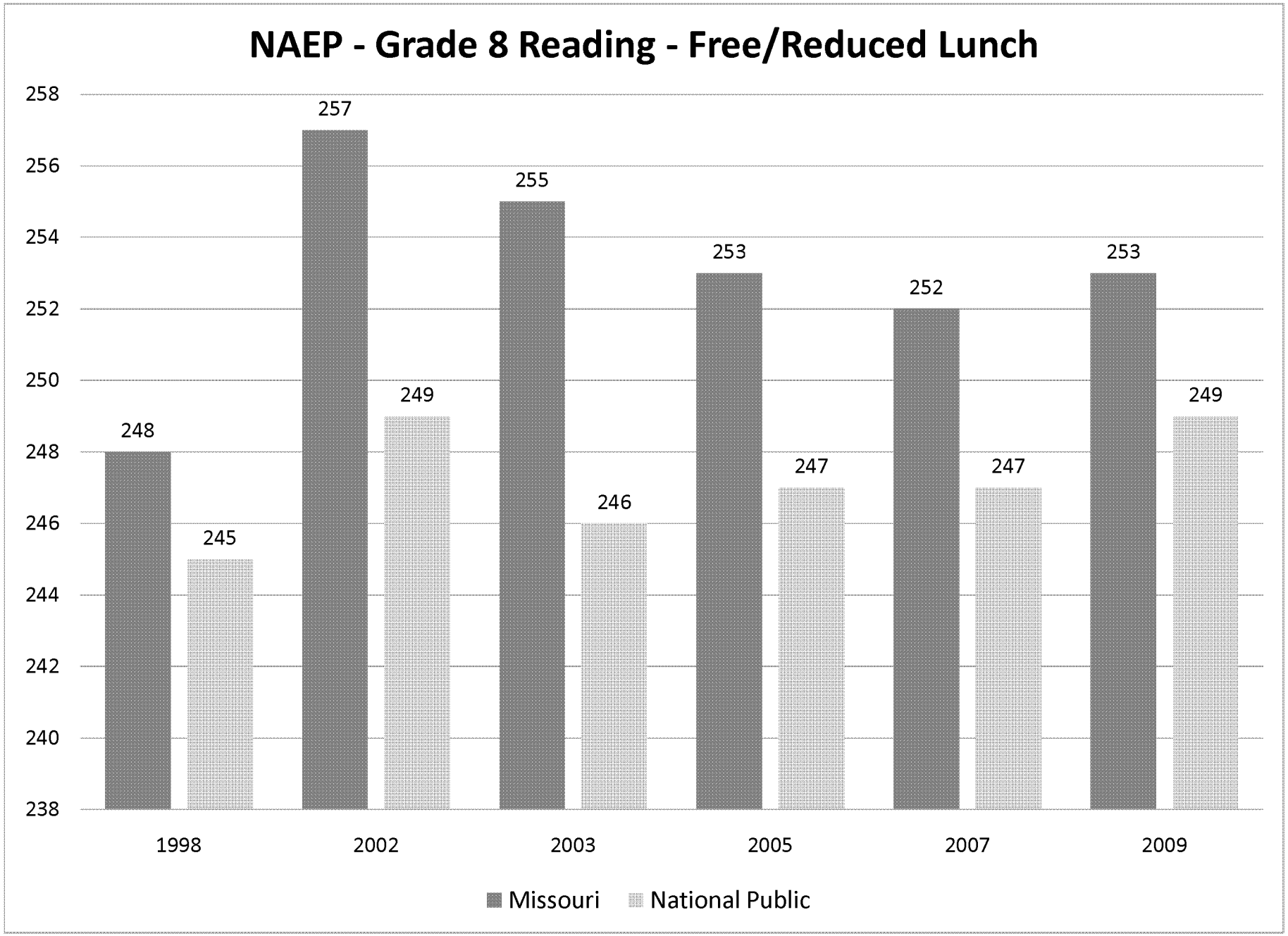
1992*	258	265	236	238			
1994*	257	265	235	239			
1998	261	268	242	241	245	224	217
2002	263	271	244	245	249	227	224
2003	261	270	244	244	246	224	222
2005	260	269	242	245	247	226	224
2007	261	270	244	246	247	226	222
2009	262	271	245	248	249	229	

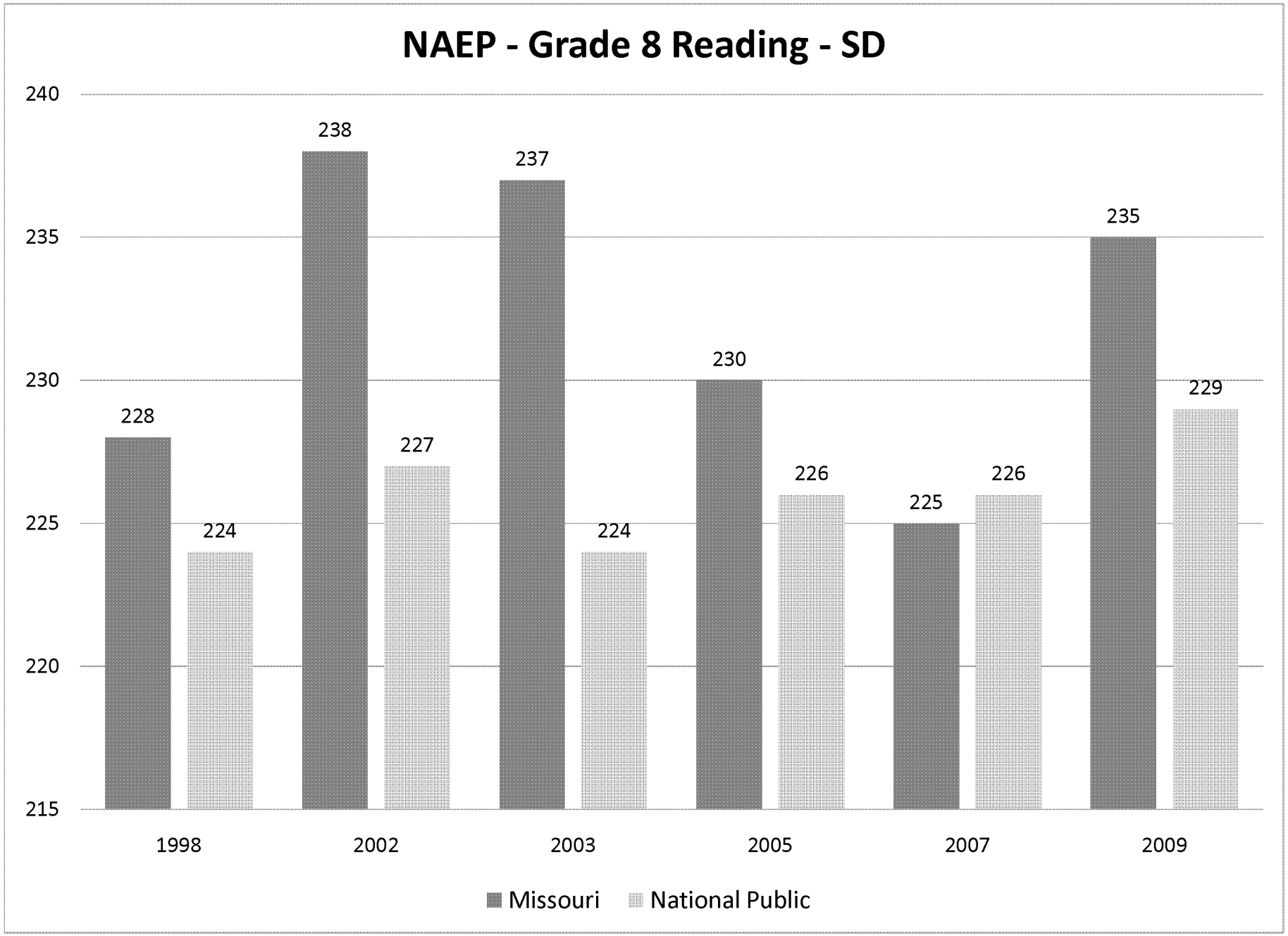

NAEP - Grade 8 Reading - Overall
270
268
266
264
262
260
258
256
262
261
268
263
267
261
265
260
263
261
267
262
1998
2002
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 8 Reading - White
274
272
270
268
266
264
262
260
265
268
271
271
272
270
270
269
270
270
270
271
1998
2002
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 8 Reading - Black
252
250
248
246
244
242
240
238
242
242
250
244
243
244
242
242
242
244
246
245
1998
2002
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 8 Reading - Hispanic
265
260
255
250
245
240
235
258
245
248
246
260
248
2005
2007
2009
Missouri
National Public


NAEP - Grade 8 Reading - Free/Reduced Lunch
258
256
254
252
250
248
246
244
242
240
238
248
245
257
249
255
246
253
247
252
247
253
249
1998
2002
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 8 Reading - SD
240
235
230
225
220
215
228
224
238
227
237
224
230
226
225
226
235
229
1998
2002
2003
2005
2007
2009
Missouri
National Public

Appendix 4 State of Missouri

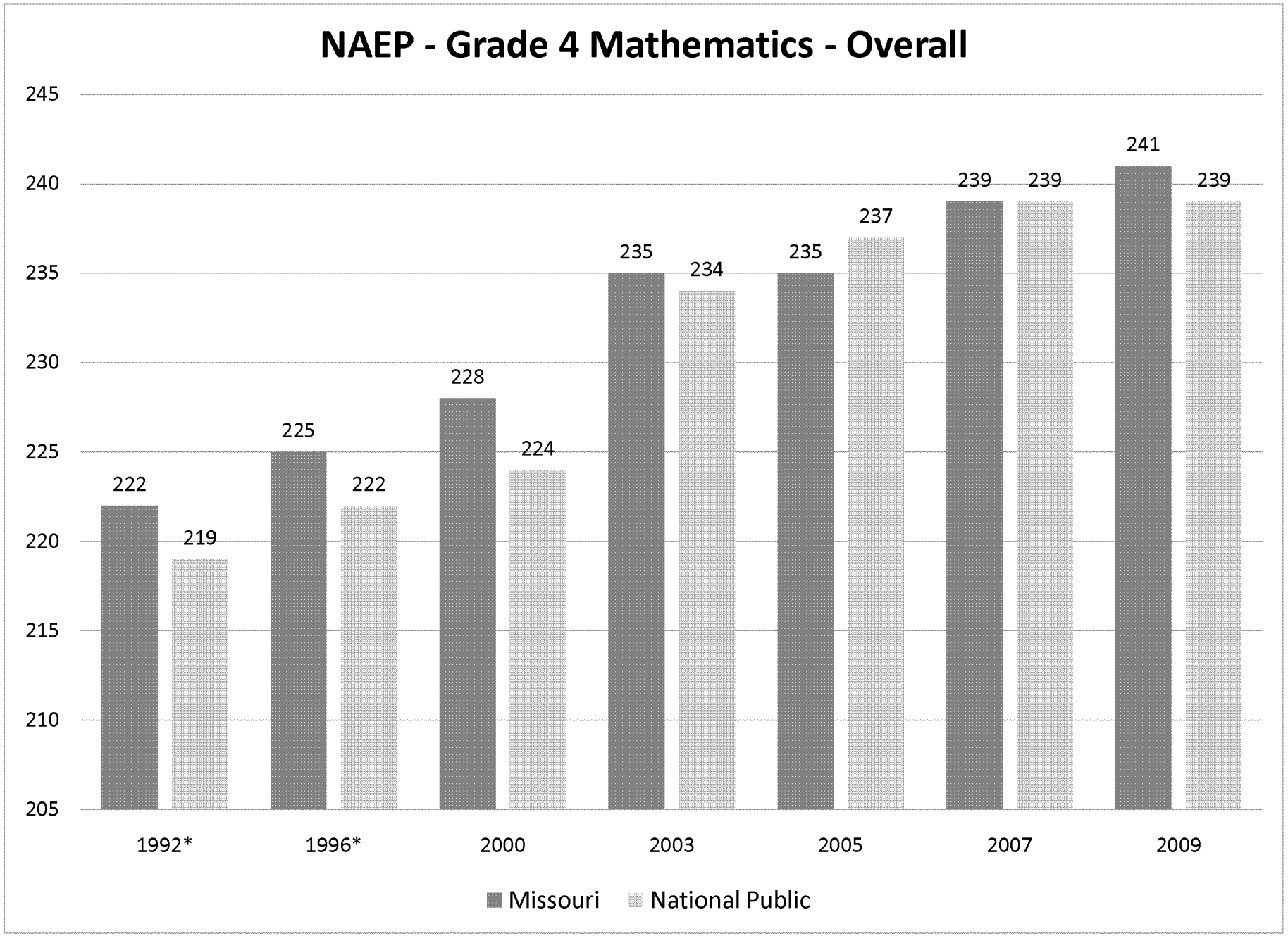
NAEP - Grade 4 Mathematics

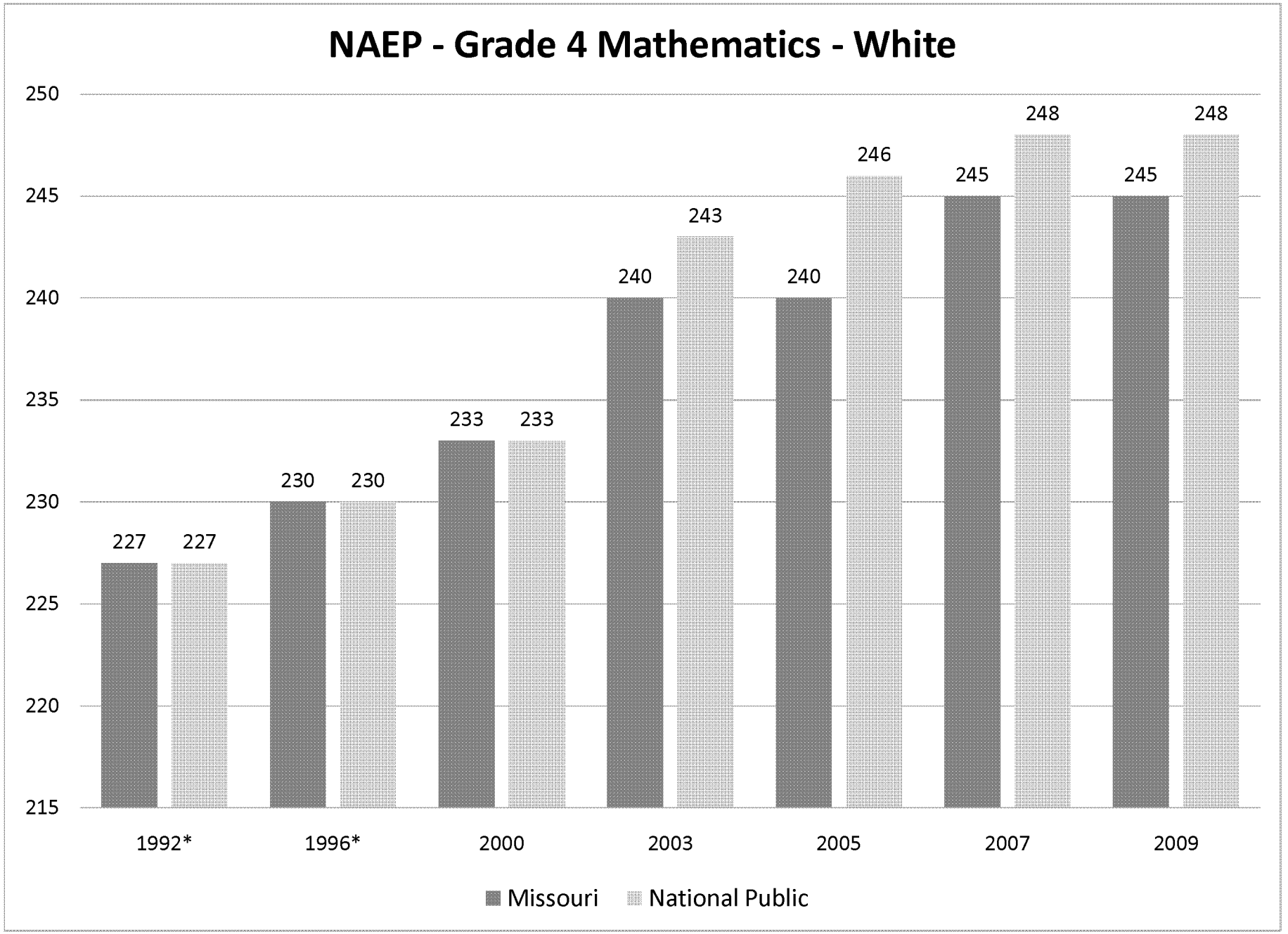
Missouri (Average Scale Score)

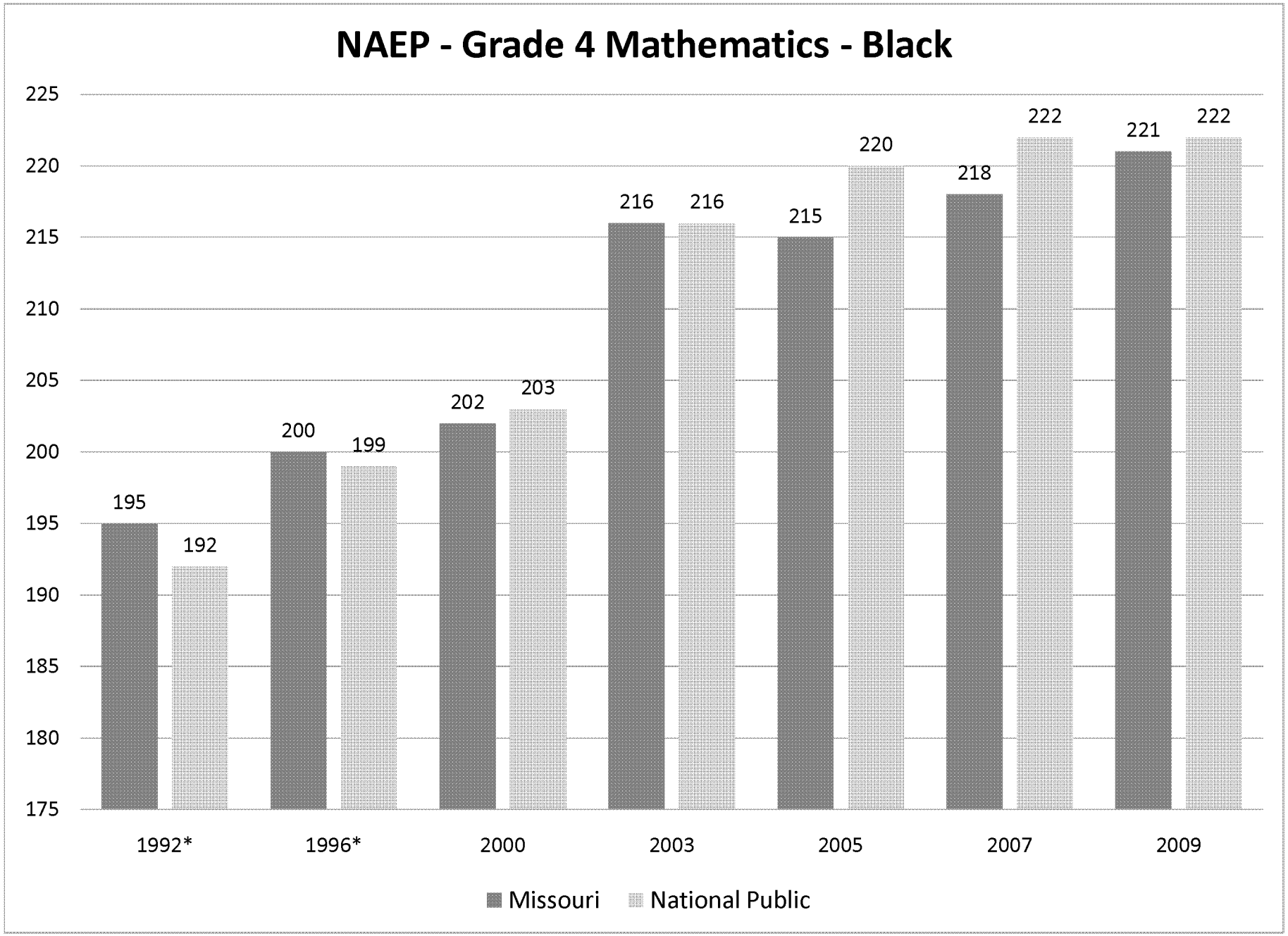
Year	Overall	White	Black	Hispanic	Free/ Reduced Lucnh	SD	ELL
1992*	222	227	195				
1996*	225	230	200		210		
2000	228	233	202		213	212	
2003	235	240	216	220	224	222	
2005	235	240	215	221	225	222	224
2007	239	245	218	234	228	225	
2009	241	245	221	237	229	225	

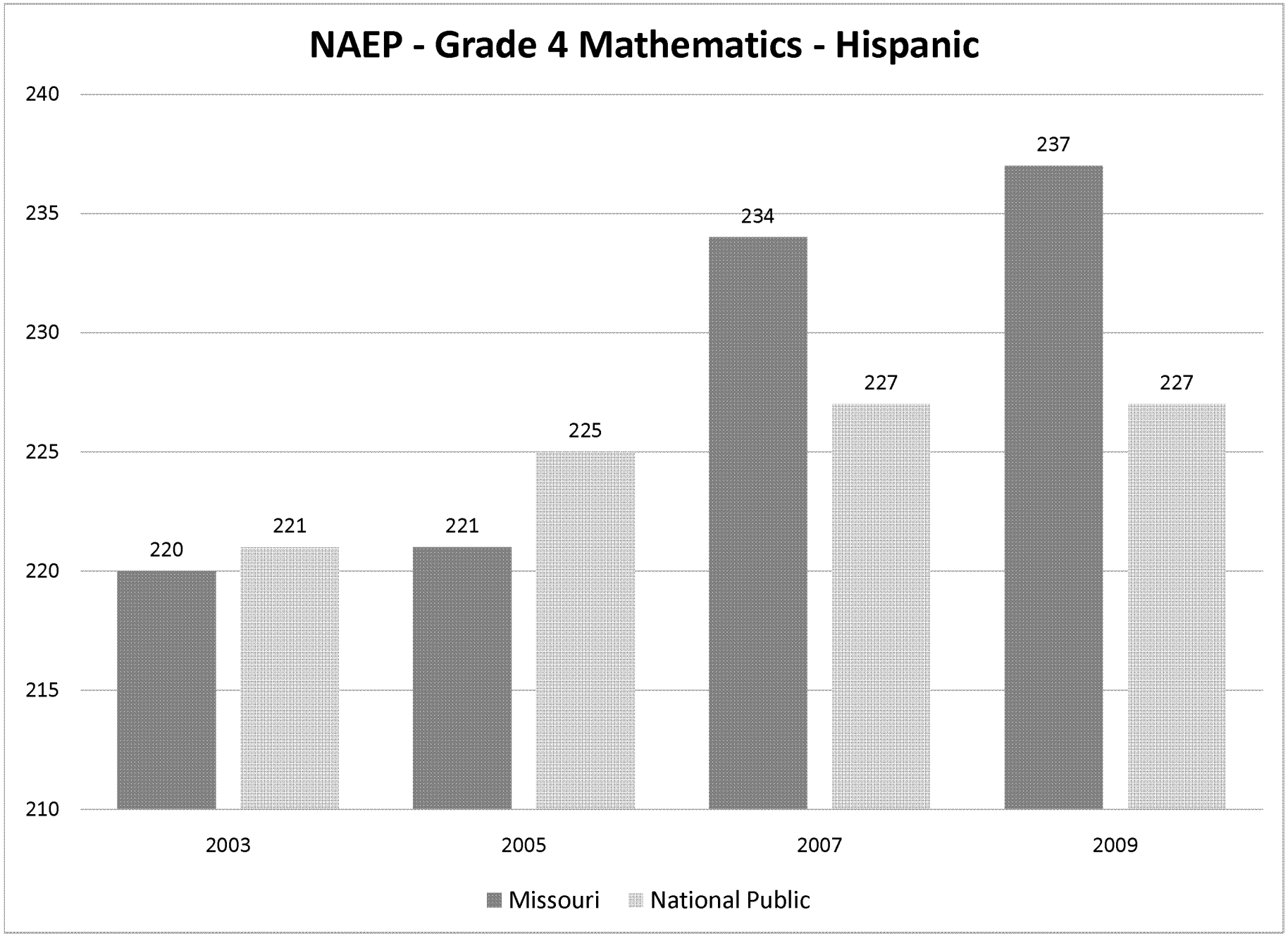
National Public (Average Scale Score)

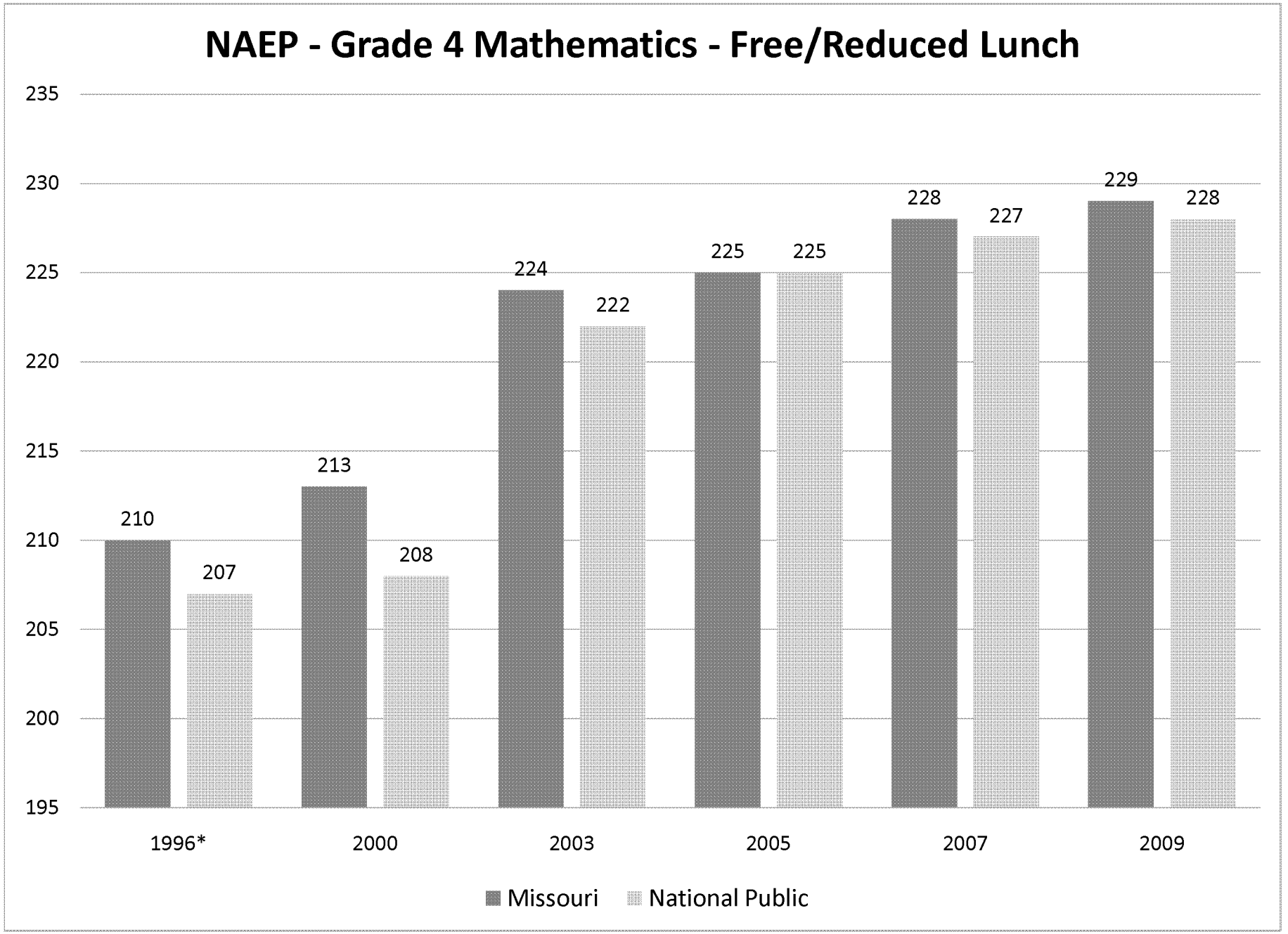
1992*	219	227	192	201			
1996*	222	230	199	204	207		
2000	224	233	203	207	208	198	199
2003	234	243	216	221	222	214	214
2005	237	246	220	225	225	218	216
2007	239	248	222	227	227	220	217
2009	239	248	222	227	228	220	218

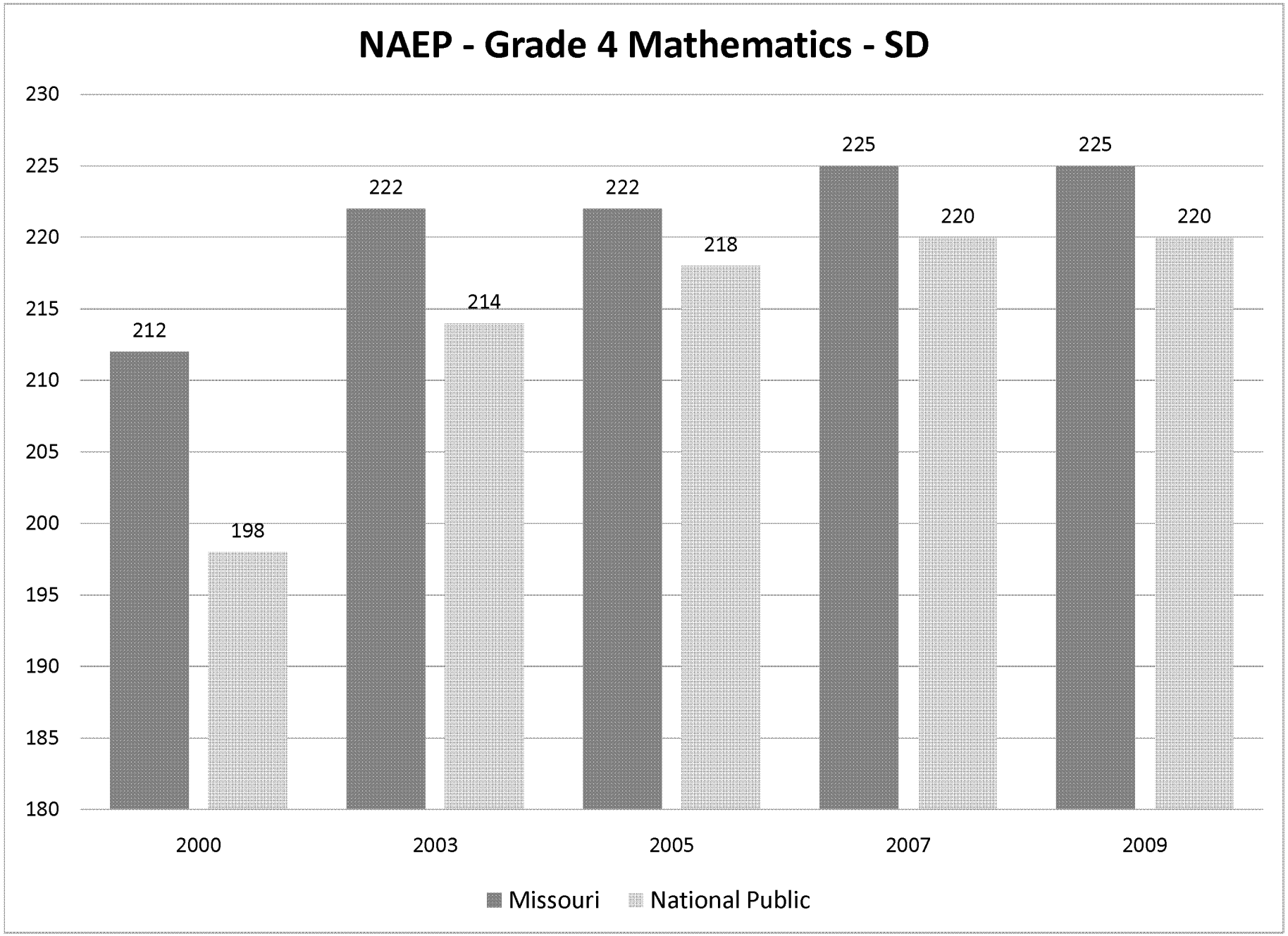

NAEP - Grade 4 Mathematics - Overall
245
240
235
230
225
220
215
210
205
222
219
225
222
228
224
235
234
235
237
239
239
241
239
1992*
1996*
2000
2003
2005
2007
2009
Missouri
National Public

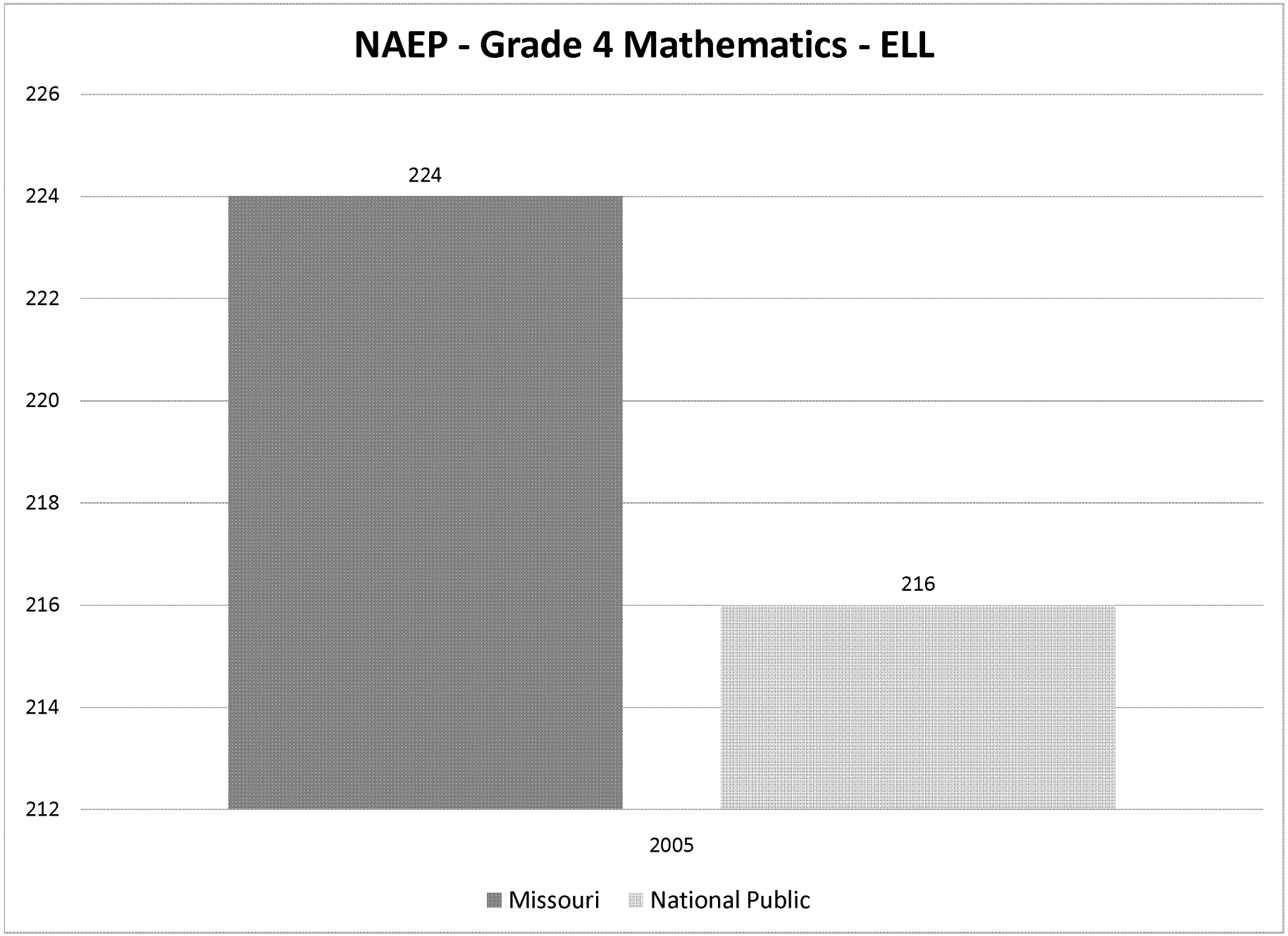

NAEP - Grade 4 Mathematics - White
250
245
240
235
230
225
220
215
227
227
230
230
233
233
240
243
240
246
245
248
245
248
1992*
1996*
2000
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 4 Mathematics - Black
225
220
215
210
205
200
195
190
185
180
175
195
192
200
199
202
203
216
216
215
220
218
222
221
222
1992*
1996*
2000
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 4 Mathematics - Hispanic
240
235
230
225
220
215
210
220
221
221
225
234
227
237
227
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 4 Mathematics - Free/Reduced Lunch
235
230
225
220
215
210
205
200
195
210
207
213
208
224
222
225
225
228
227
229
228
1996*
2000
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 4 Mathematics - SD
230
225
220
215
210
205
200
195
190
185
180
212
198
222
214
222
218
225
220
225
220
2000
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 4 Mathematics - ELL
226
224
222
220
218
216
214
212
224
216
2005
Missouri
National Public

Appendix 4 State of Missouri

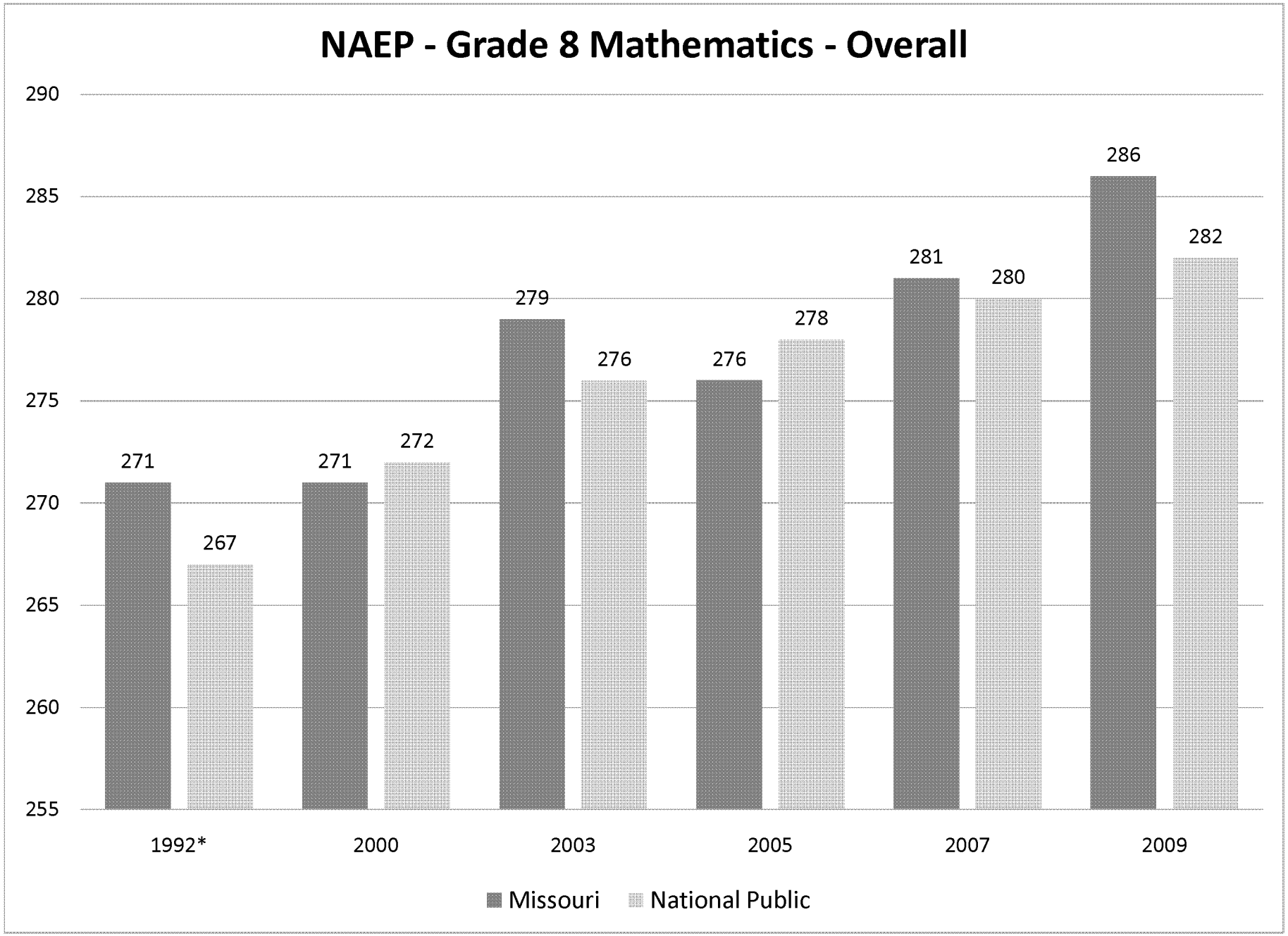
NAEP - Grade 8 Mathematics

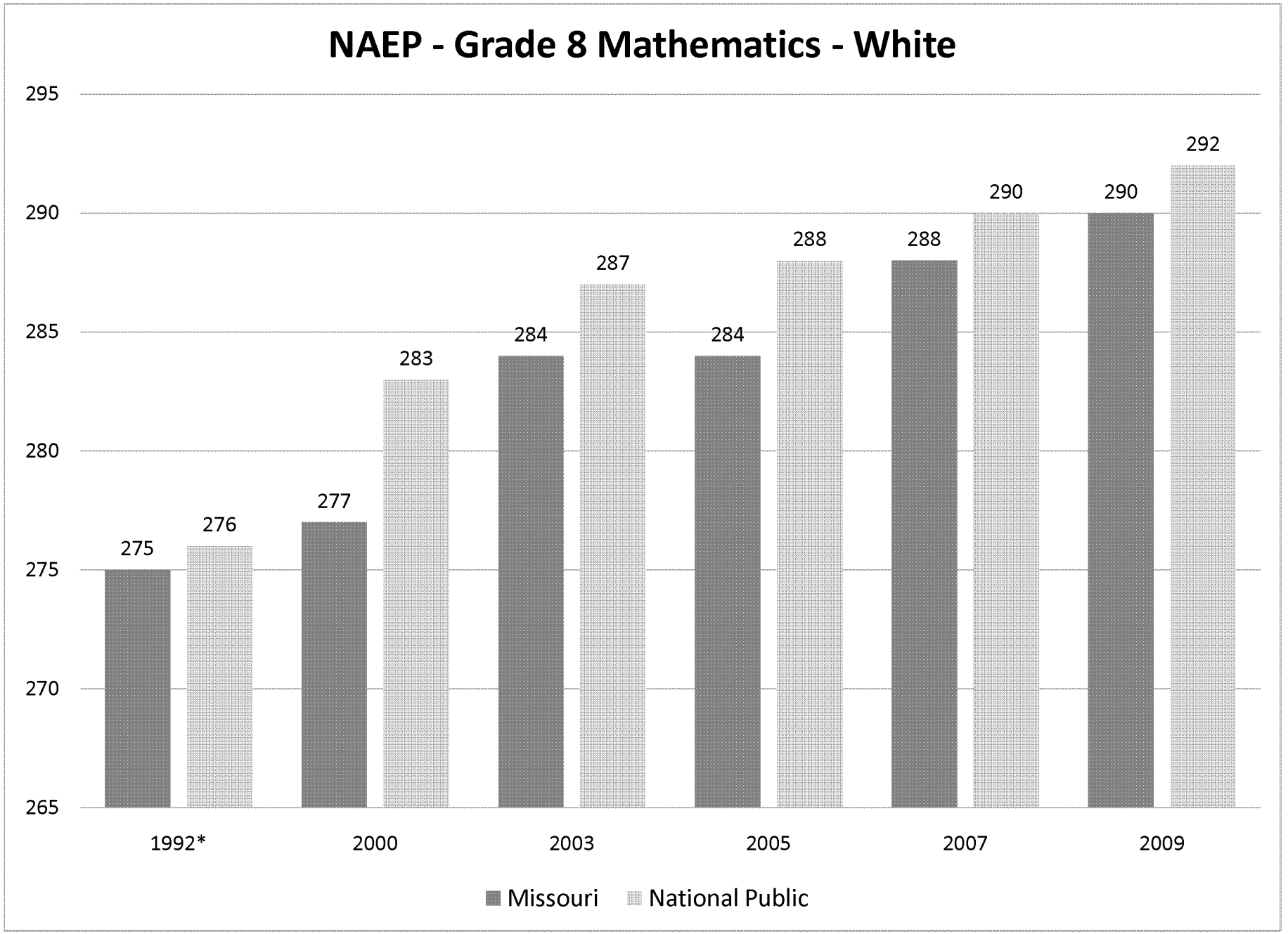
Missouri (Average Scale Score)

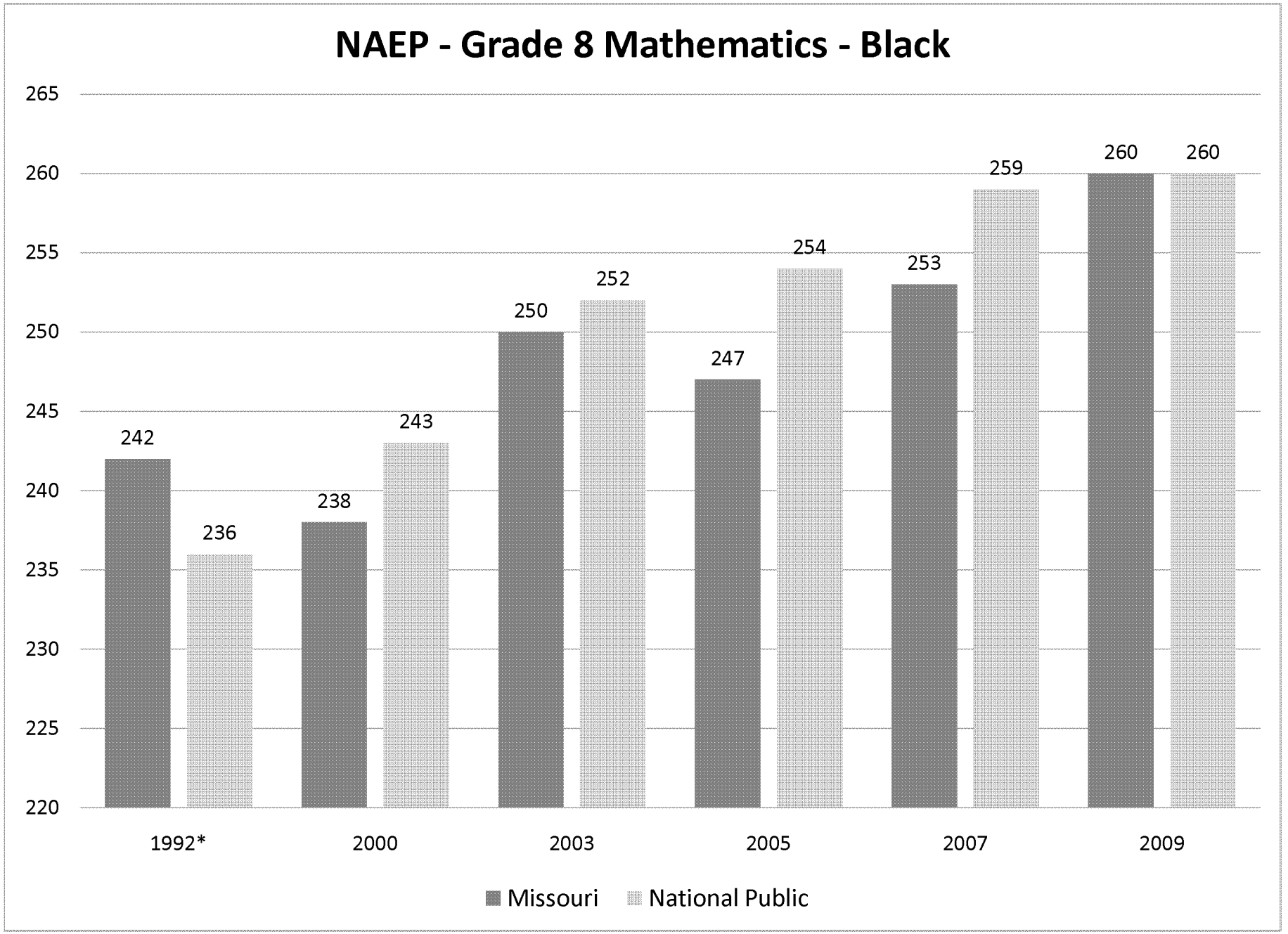
Year	Overall	White	Black	Hispanic	Free/ Reduced Lucnh	SD	ELL
1992*	271	275	242				
1996							
2000	271	277	238		250	232	
2003	279	284	250		263	247	
2005	276	284	247		262	245	
2007	281	288	253	270	266	249	
2009	286	290	260	284	272	255	

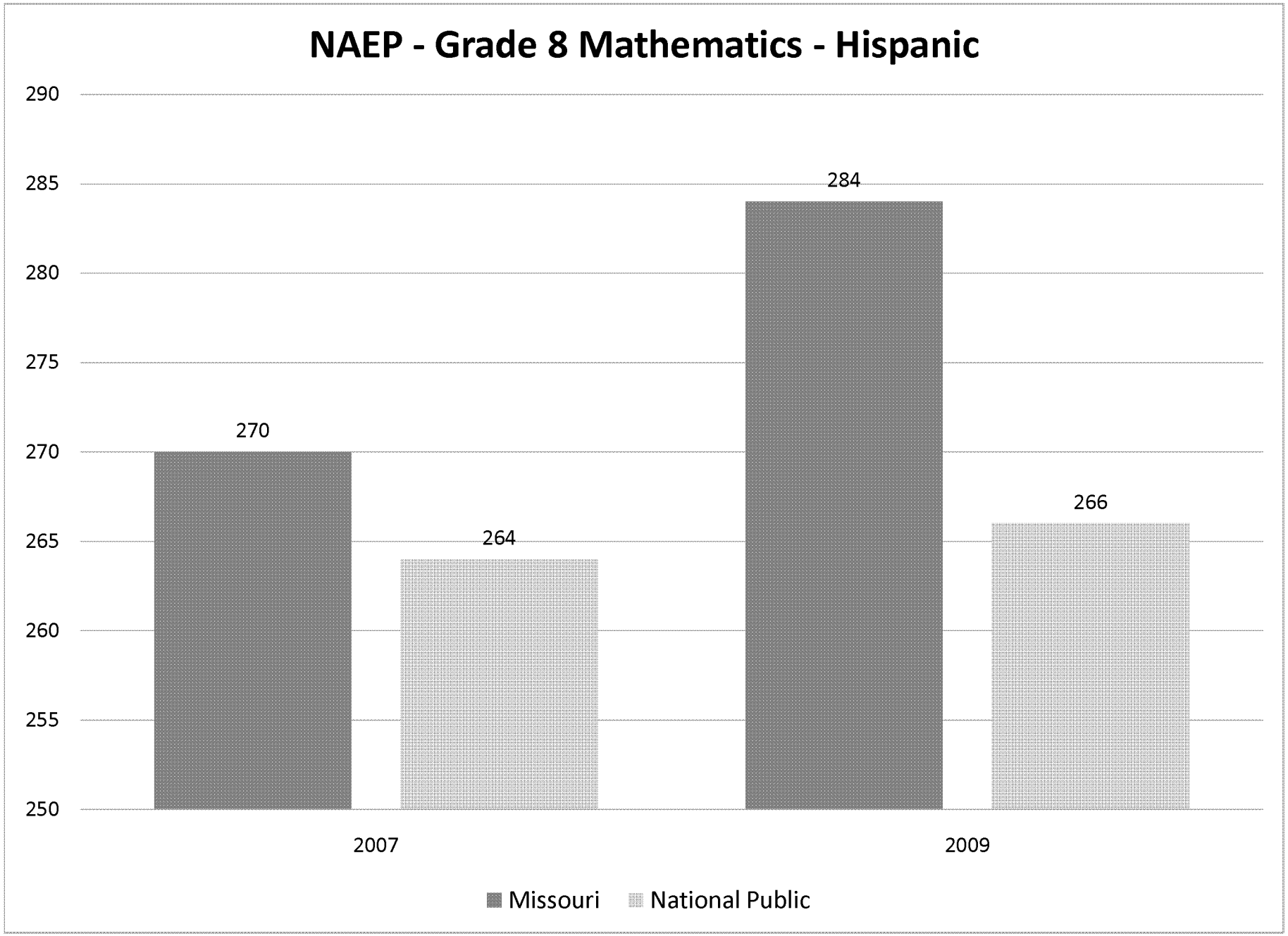
National Public (Average Scale Score)

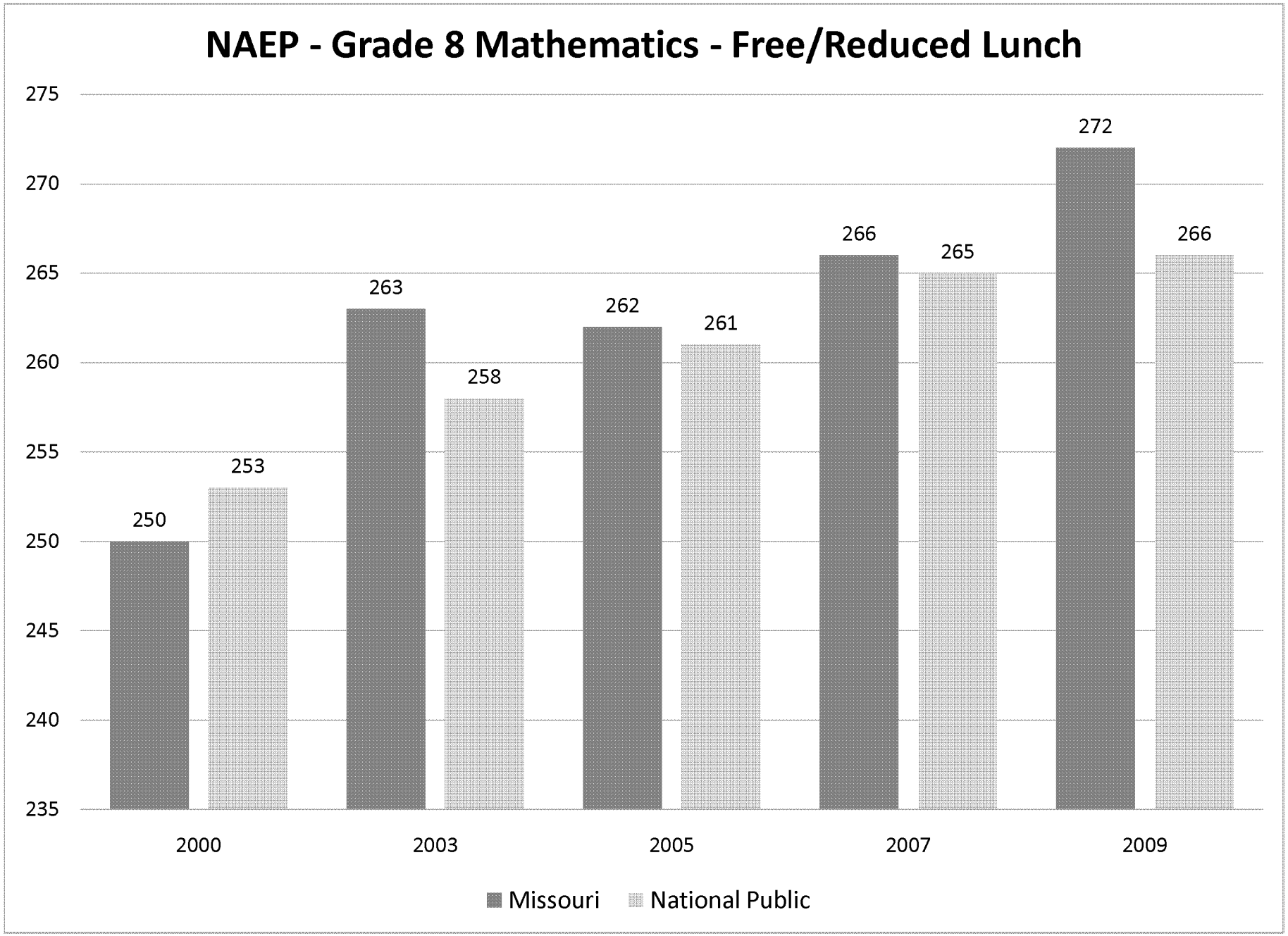
1992*	267	276	236	247			
1996	269	279	239	249	250	231	226
2000	272	283	243	252	253	229	234
2003	276	287	252	258	258	242	241
2005	278	288	254	261	261	244	244
2007	280	290	259	264	265	246	245
2009	282	292	260	266	266	249	243

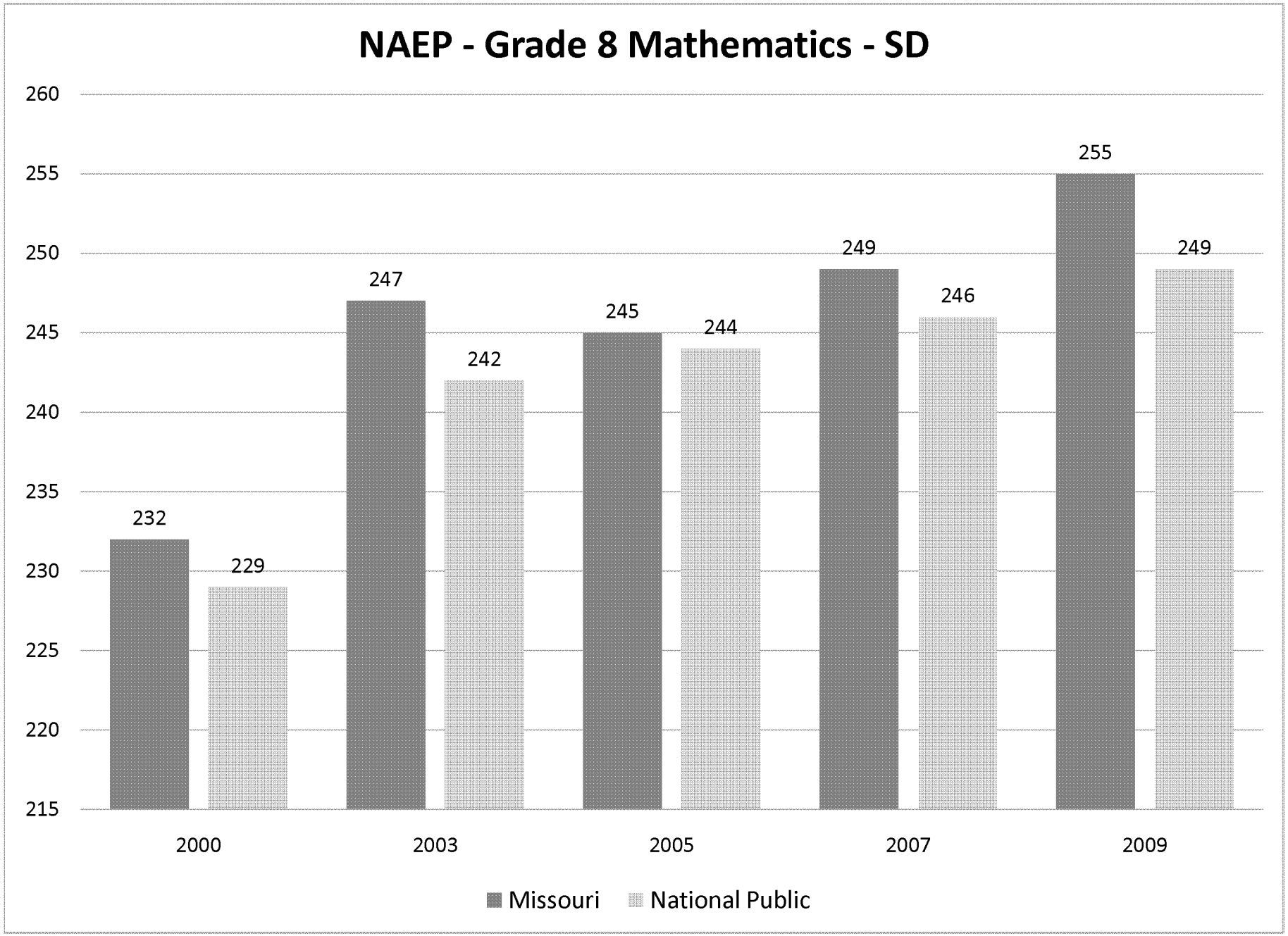

NAEP - Grade 8 Mathematics - Overall
290
285
280
275
270
265
260
255
271
267
271
272
279
276
276
278
281
280
286
282
1992*
2000
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 8 Mathematics - White
295
290
285
280
275
270
265
275
276
277
283
284
287
284
288
288
290
290
292
1992*
2000
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 8 Mathematics - Black
265
260
255
250
245
240
235
230
225
220
242
236
238
243
250
252
247
254
253
259
260
260
1992*
2000
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 8 Mathematics - Hispanic
290
285
280
275
270
265
260
255
250
270
264
284
266
2007
2009
Missouri
National Public


NAEP - Grade 8 Mathematics - Free/Reduced Lunch
275
270
265
260
255
250
245
240
235
250
253
263
258
262
261
266
265
272
266
2000
2003
2005
2007
2009
Missouri
National Public


NAEP - Grade 8 Mathematics - SD
260
255
250
245
240
235
230
225
220
215
232
229
247
242
245
244
249
246
255
249
2000
2003
2005
2007
2009
Missouri
National Public

Appendix 4 State of Missouri

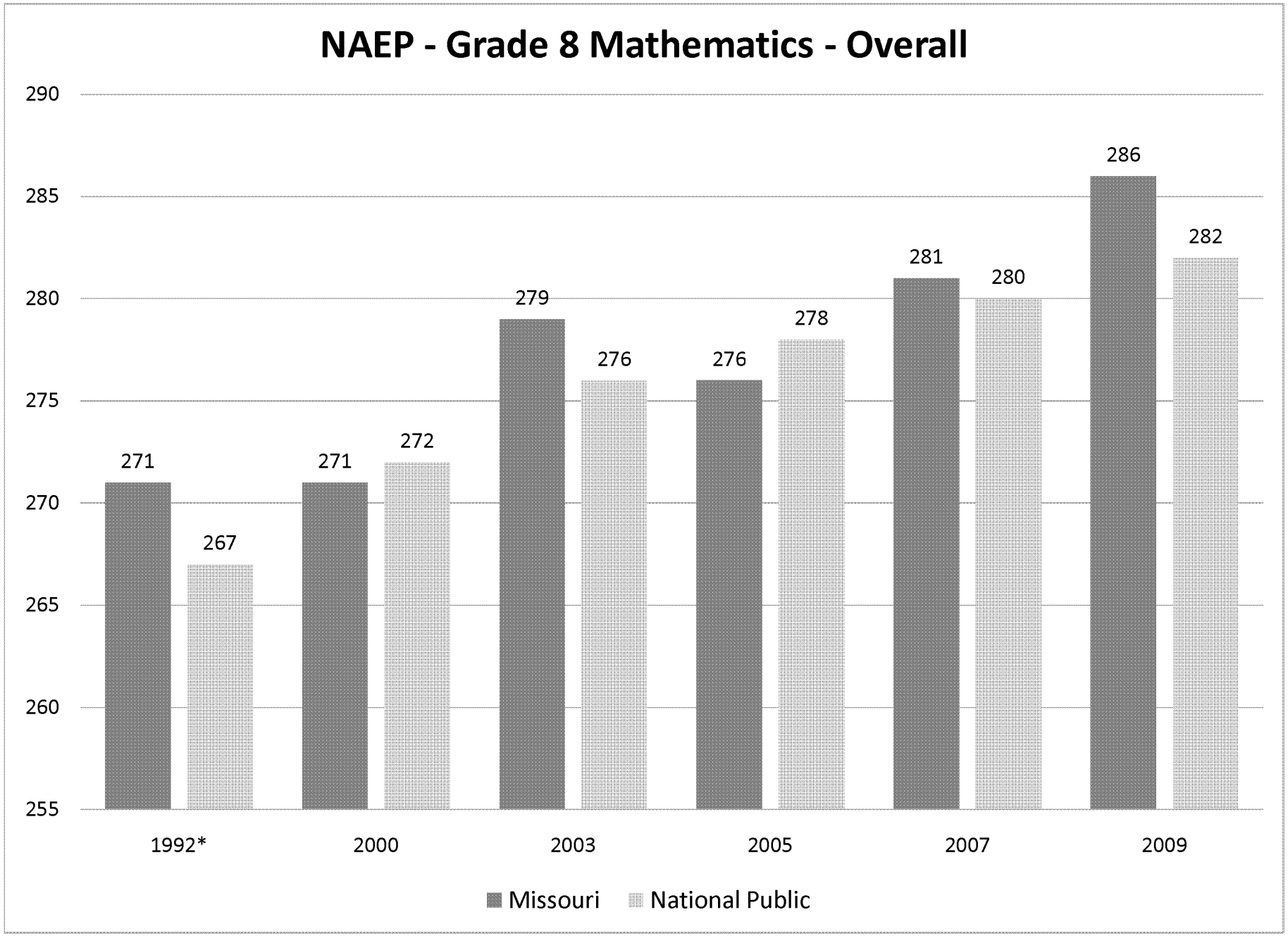
NAEP - Grade 8 Mathematics

Missouri (Average Scale Score)

Year	Overall	White	Black	Hispanic	Free/ Reduced Lucnh	SD	ELL
1992*	271	275	242				
1996							
2000	271	277	238		250	232	
2003	279	284	250		263	247	
2005	276	284	247		262	245	
2007	281	288	253	270	266	249	
2009	286	290	260	284	272	255	

National Public (Average Scale Score)

1992*	267	276	236	247			
1996	269	279	239	249	250	231	226
2000	272	283	243	252	253	229	234
2003	276	287	252	258	258	242	241
2005	278	288	254	261	261	244	244
2007	280	290	259	264	265	246	245
2009	282	292	260	266	266	249	243


NAEP - Grade 8 Mathematics - Overall
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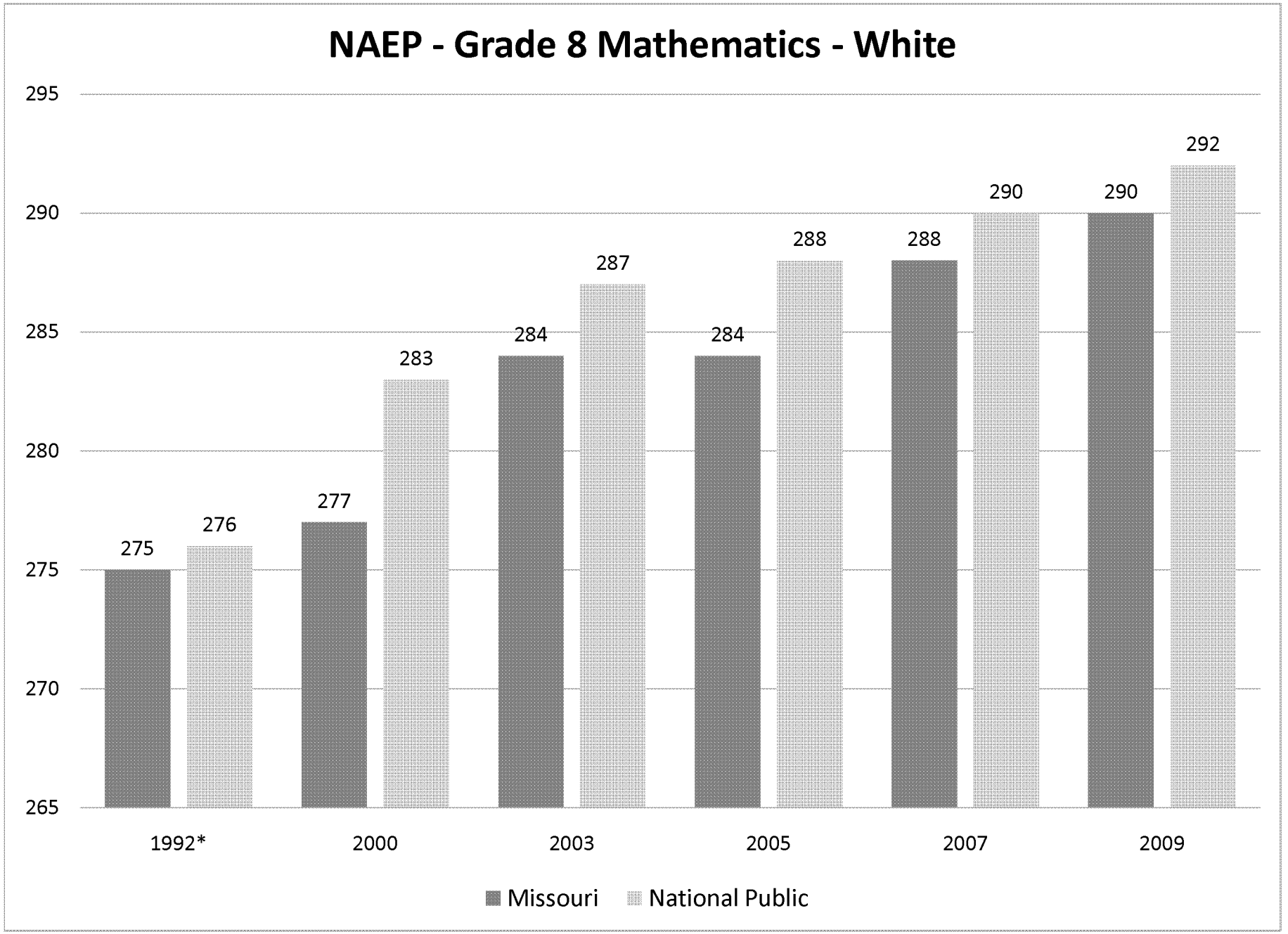
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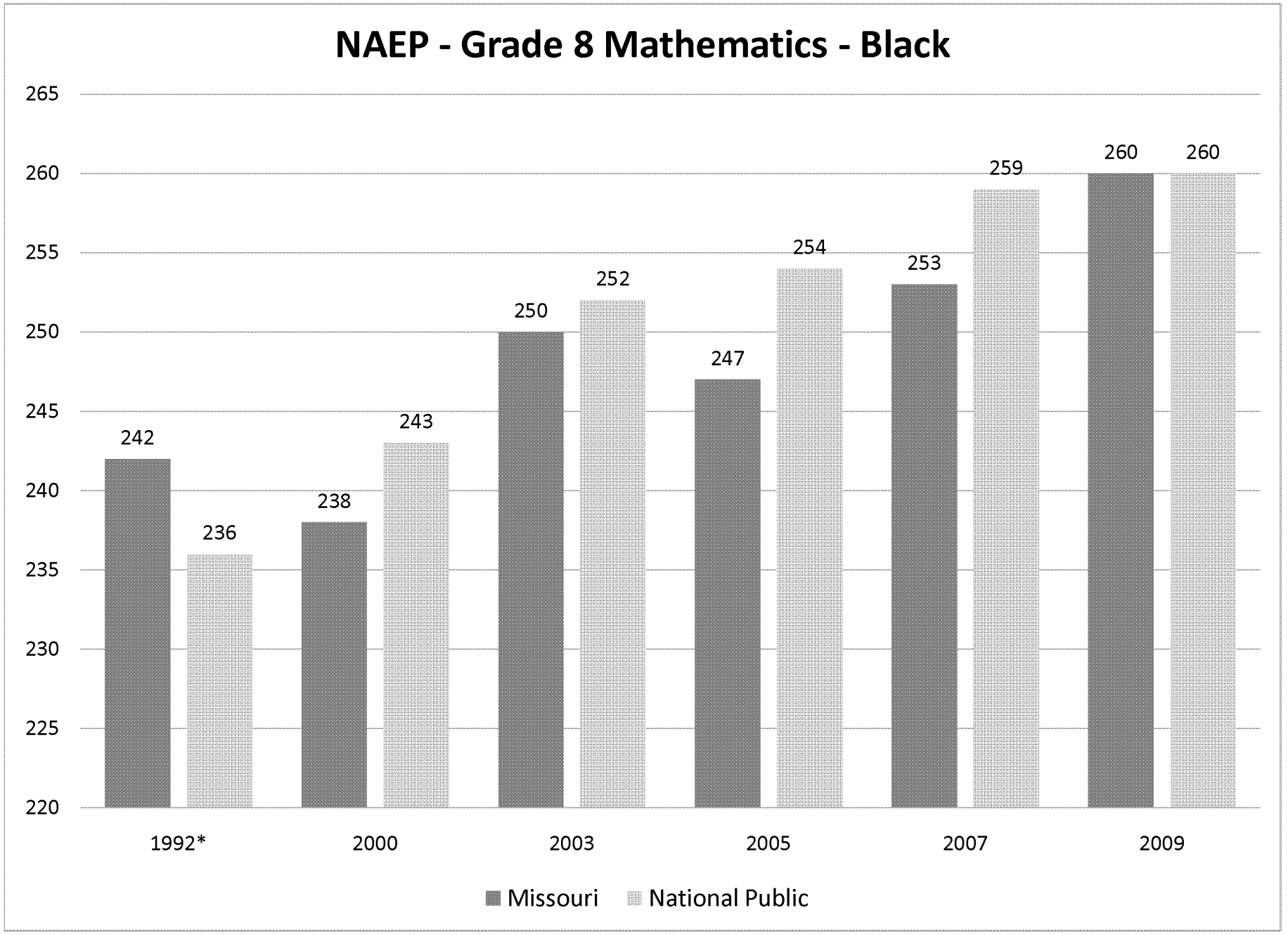
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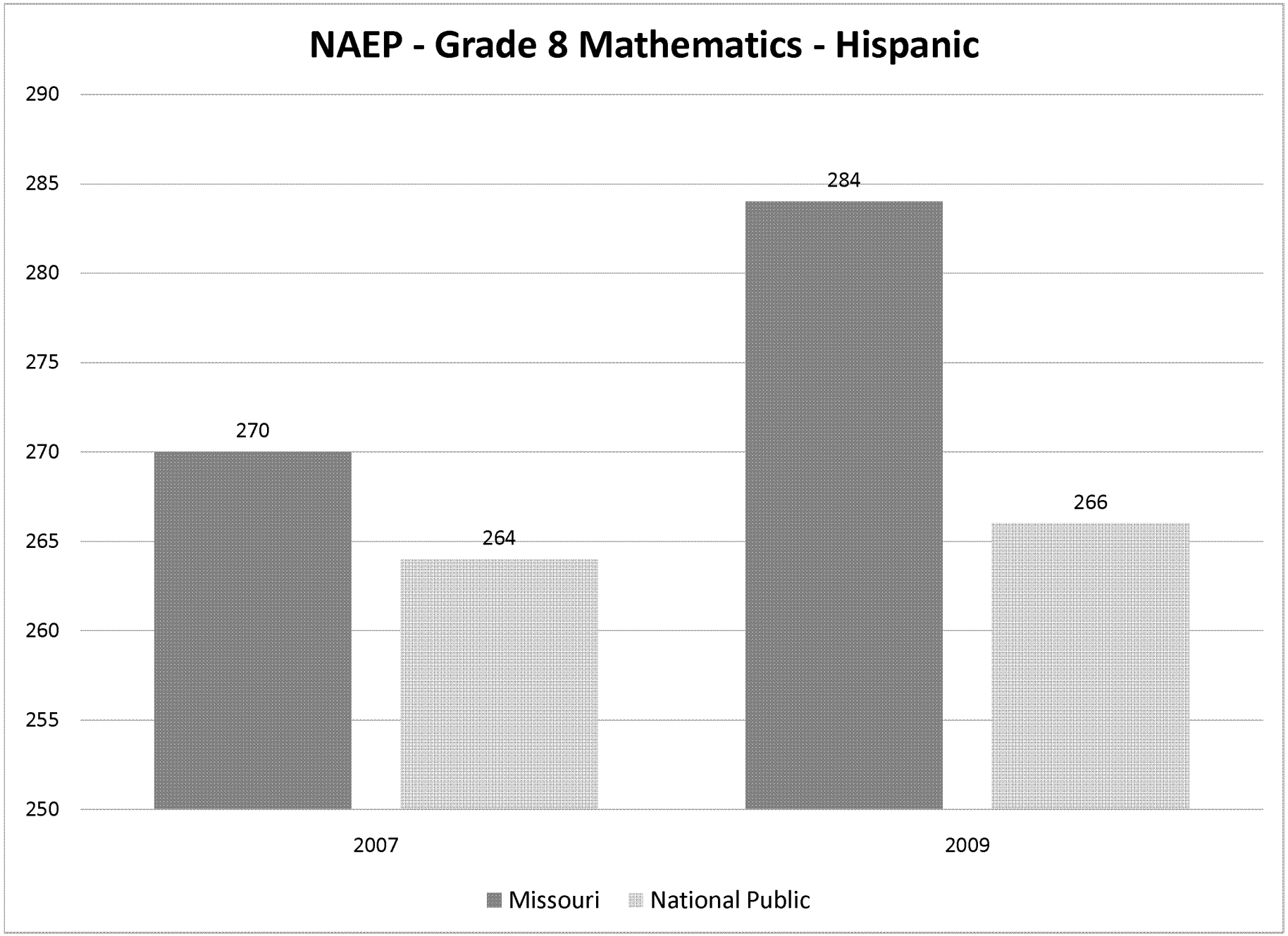
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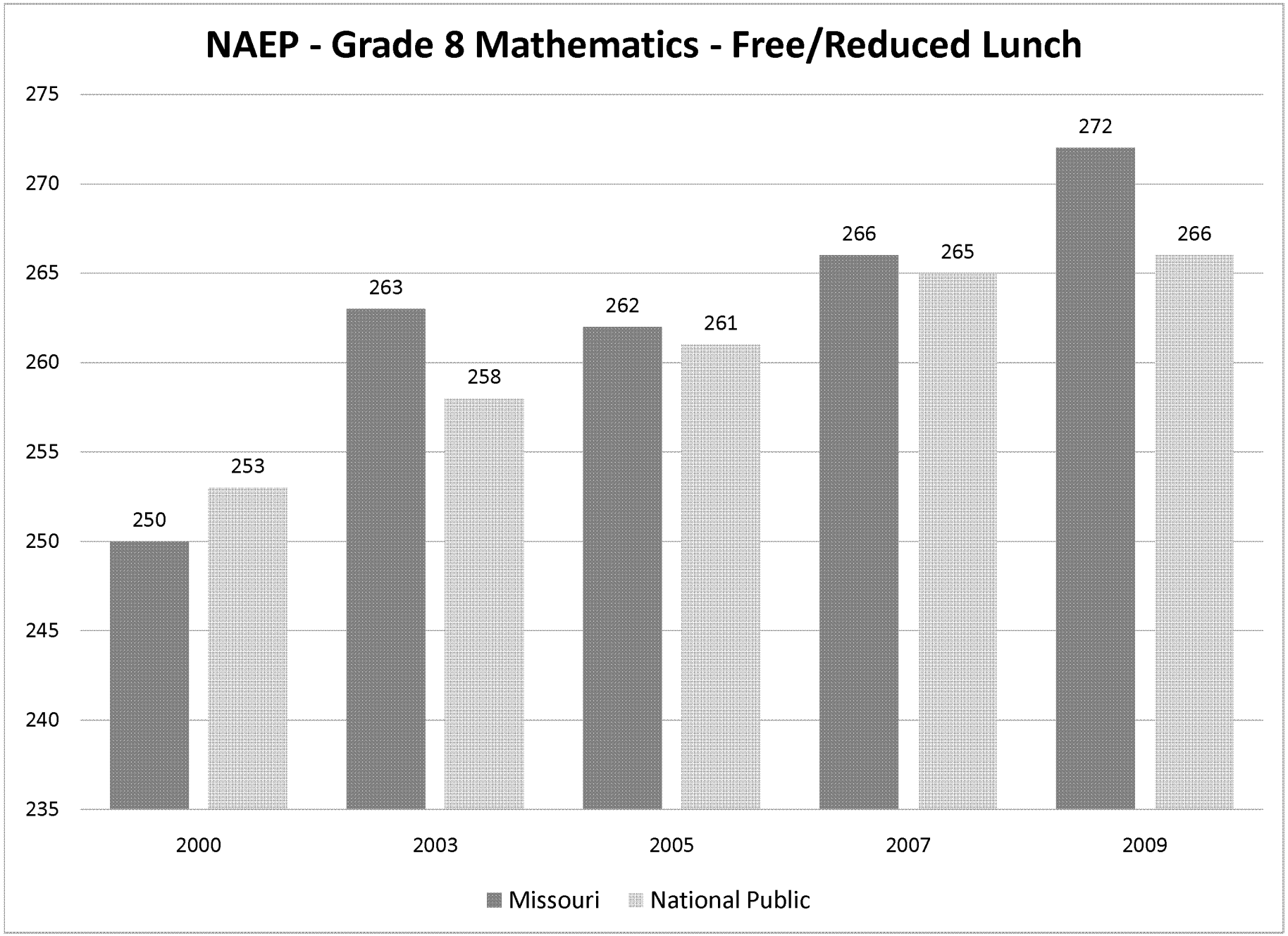
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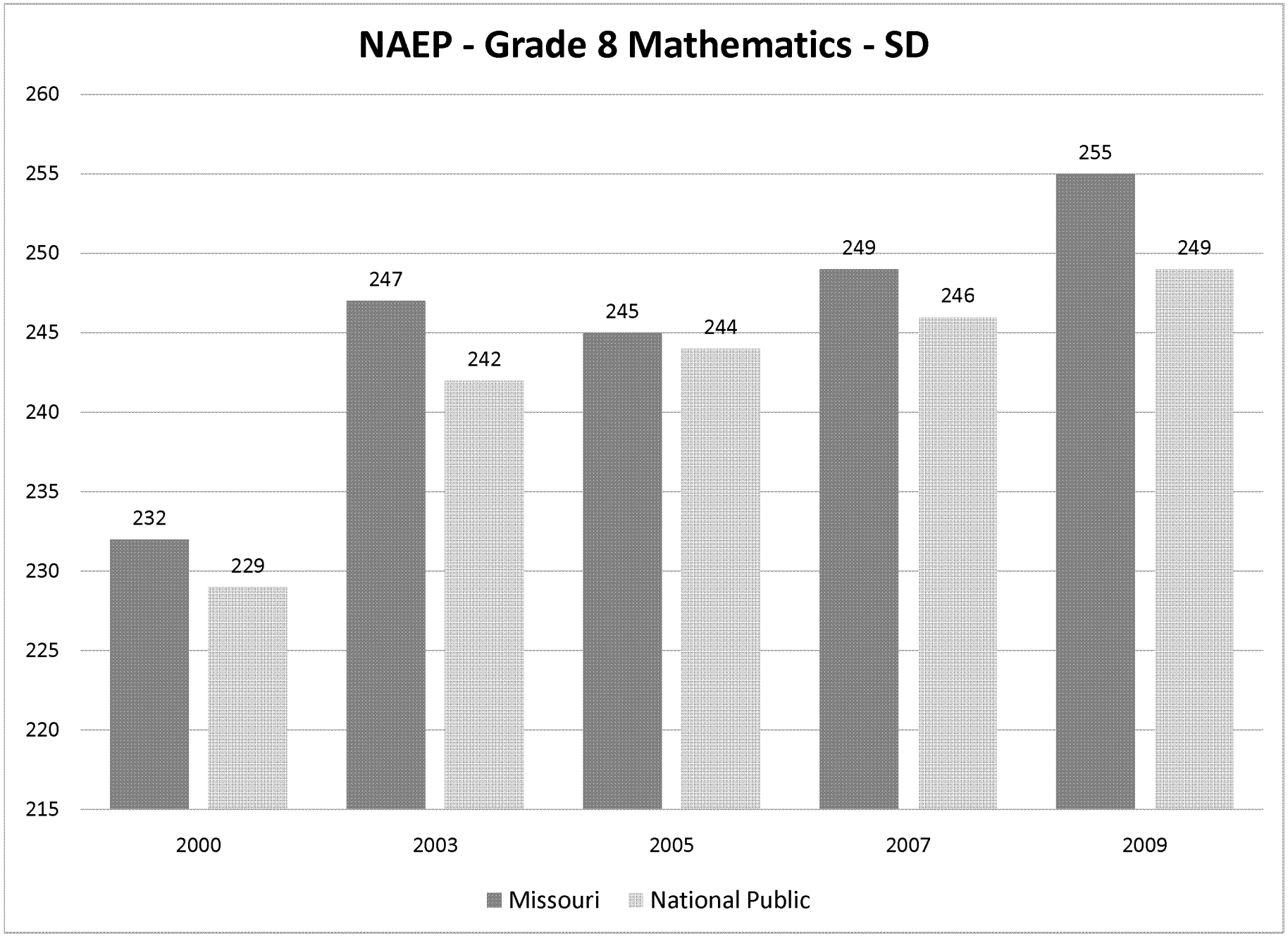
NAEP - Grade 8 Mathematics - SD
260
255
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215
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2000
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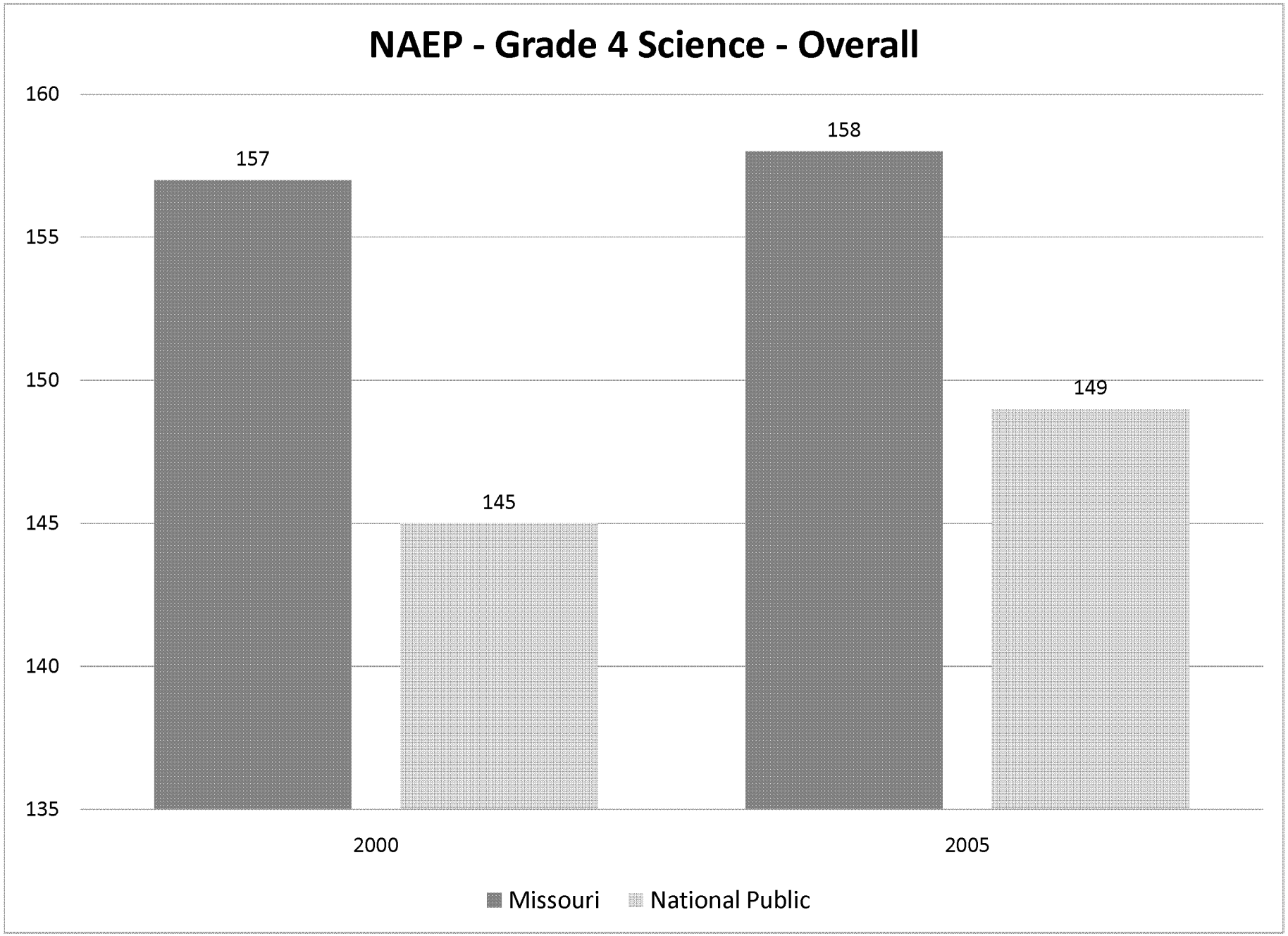
2007
2009
Missouri
National Public

Appendix 4 State of Missouri

NAEP - Grade 4 Science							
Missouri (Average Scale Score)							
Year	**Overall**	**White**	**Black**	**Hispanic**	**Free/ Reduced Lucnh**	**SD**	**ELL**
1996							
2000	157	163	130		144	148	
2005	158	164	135	150	147	147	
National Public (Average Scale Score)							
1996	145	157	119	122	128	124	99
2000	145	158	121	121	126	119	102
2005	149	161	128	132	135	133	120


NAEP - Grade 4 Science - Overall
160
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149
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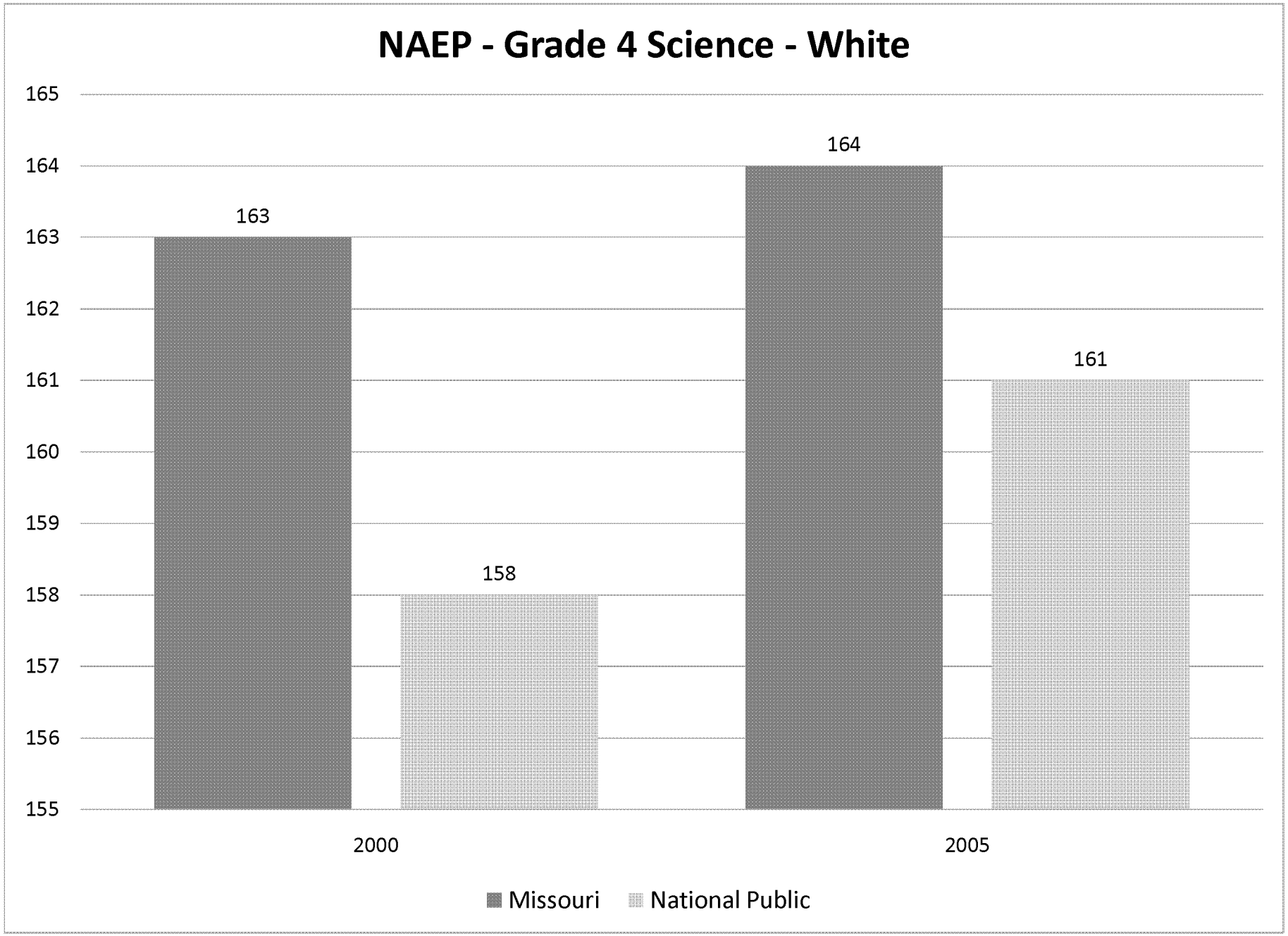
2005
Missouri
National Public


NAEP - Grade 4 Science - White
165
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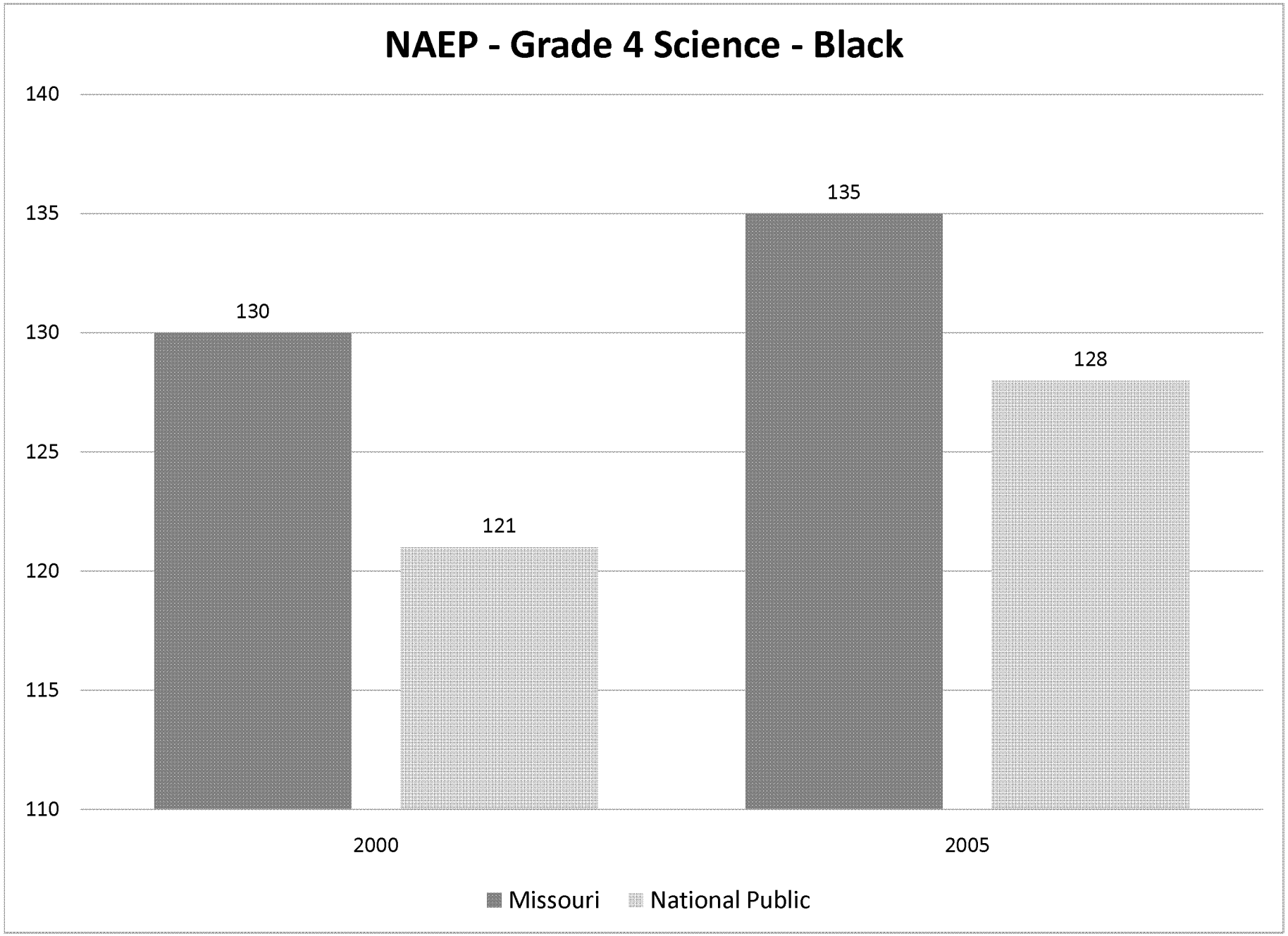
2005
Missouri
National Public


NAEP - Grade 4 Science - Black
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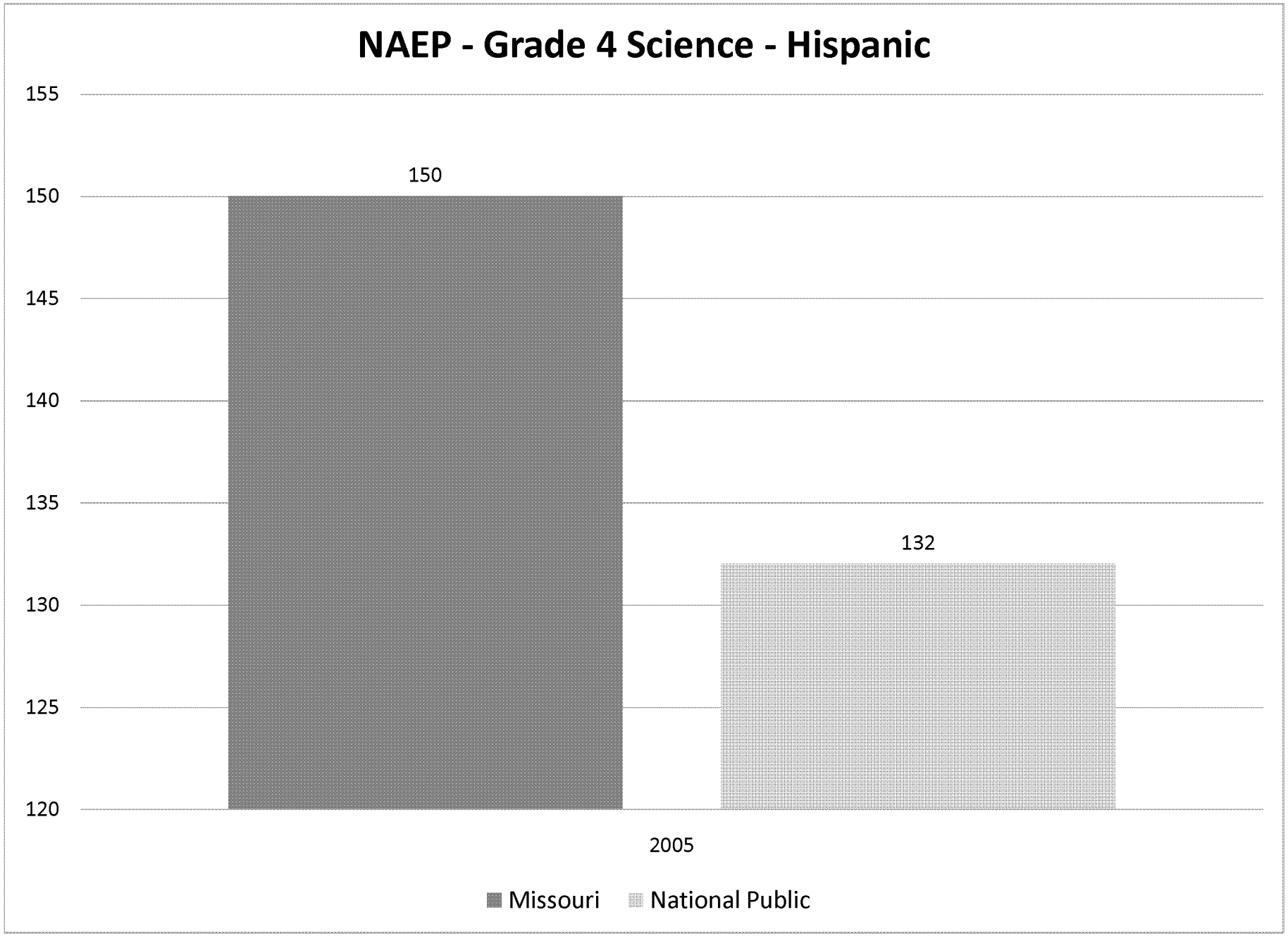
National Public


NAEP - Grade 4 Science - Hispanic
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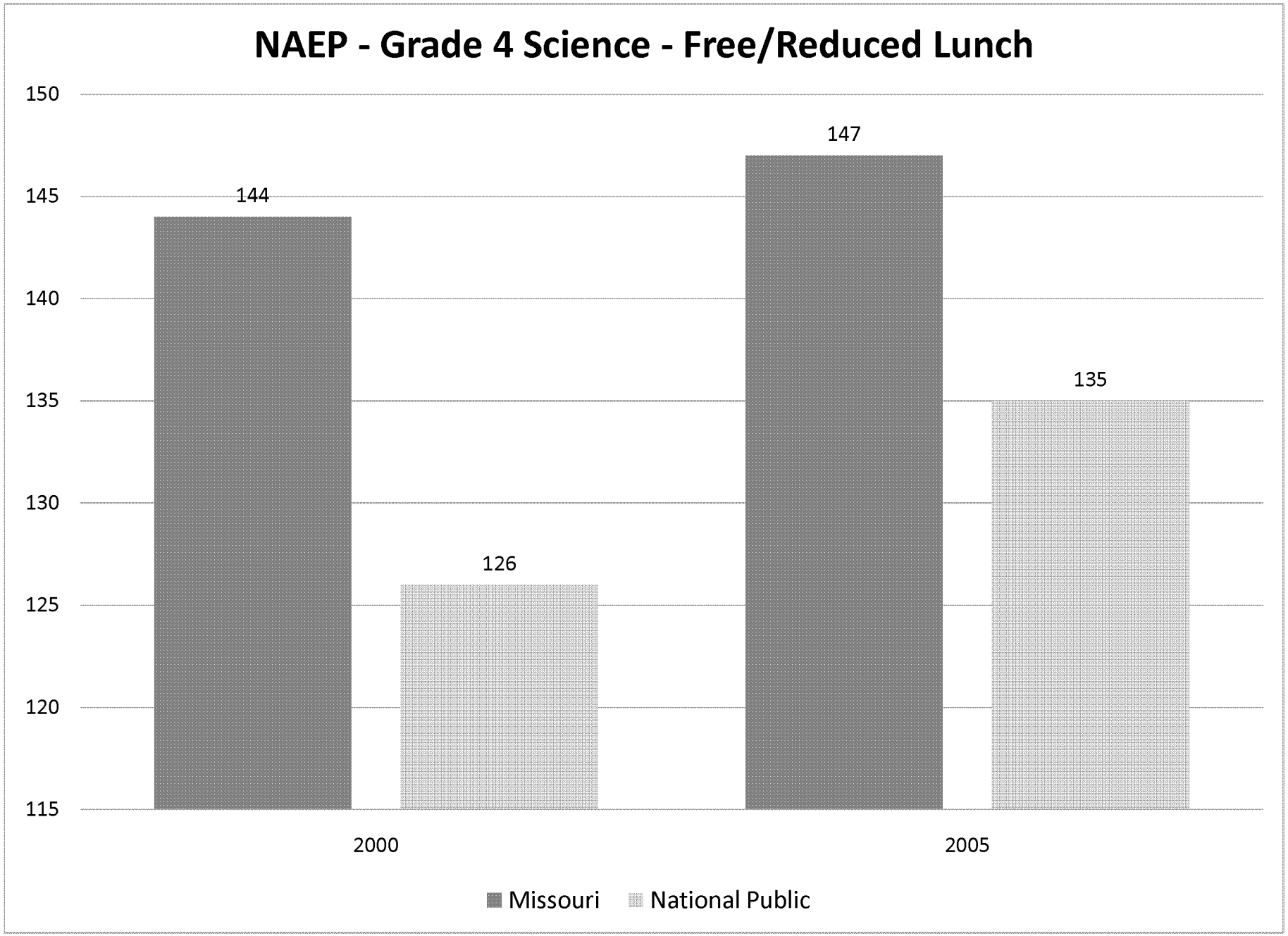
Missouri
National Public


NAEP - Grade 4 Science - Free/Reduced Lunch
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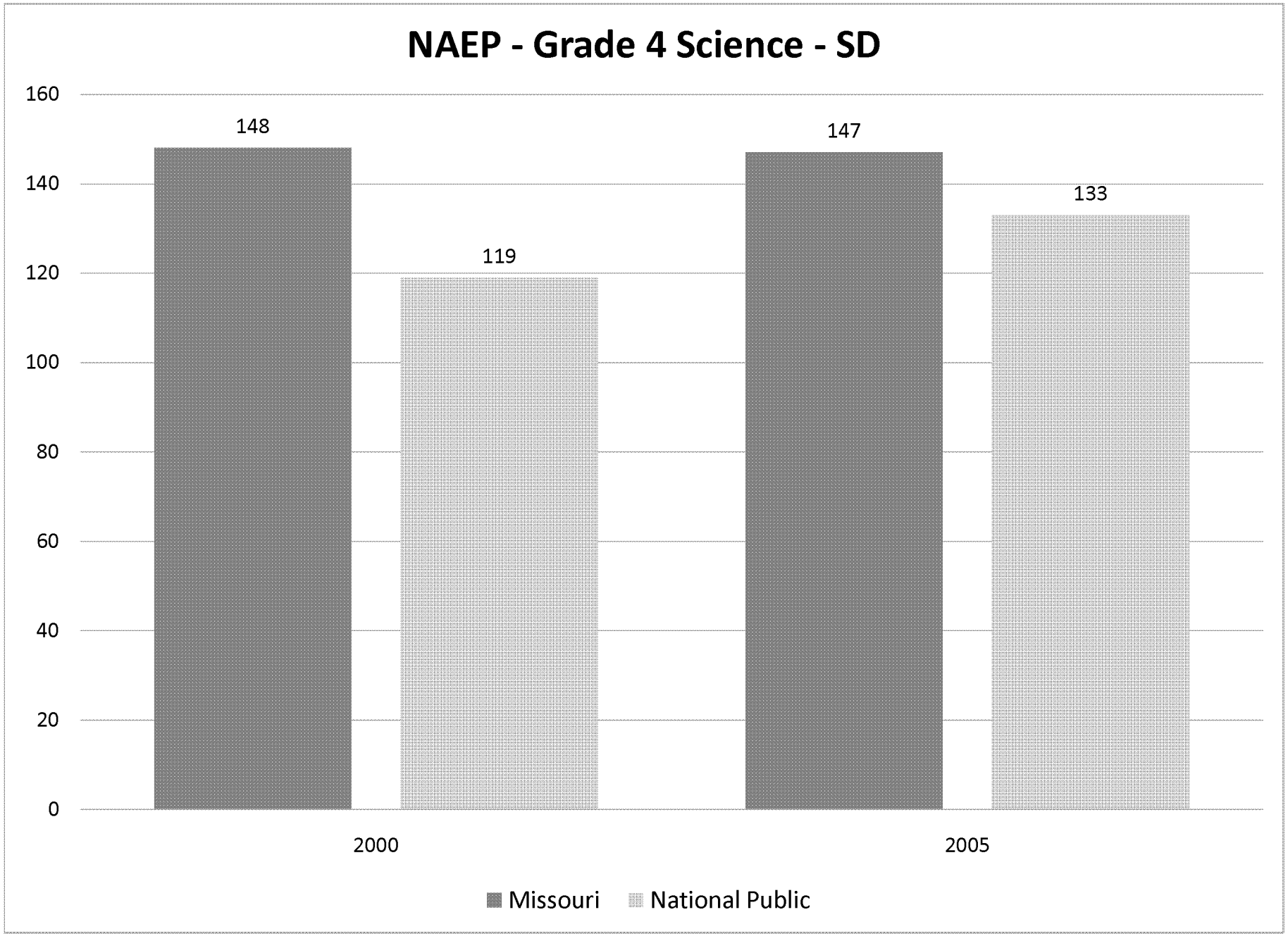
Missouri
National Public


NAEP - Grade 4 Science - SD
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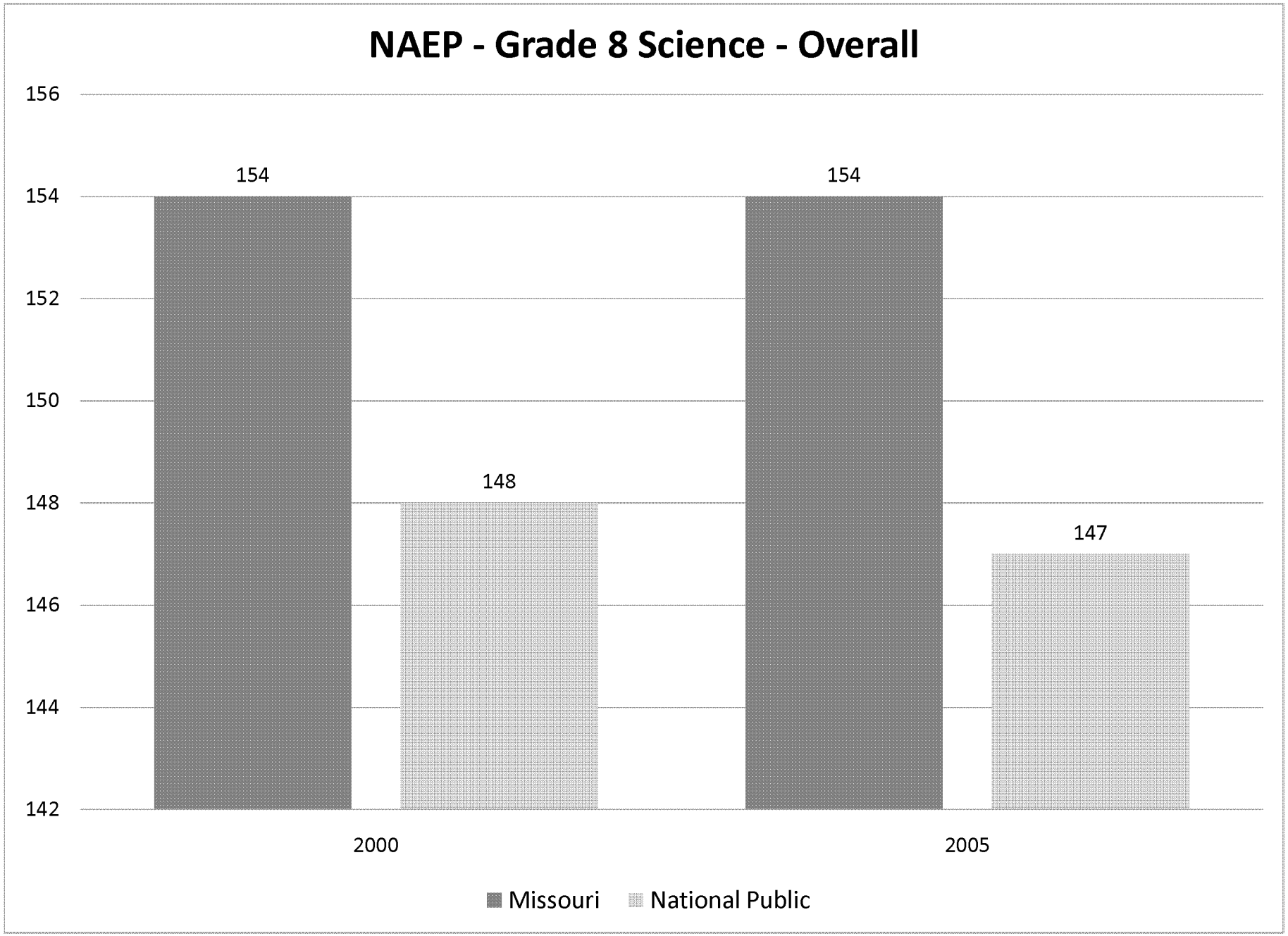
Missouri
National Public

Appendix 4 State of Missouri

NAEP - Grade 8 Science							
Missouri (Average Scale Score)							
Year	**Overall**	**White**	**Black**	**Hispanic**	**Free/ Reduced Lucnh**	**SD**	**ELL**
1996							
2000	154	159	120		138	123	
2005	154	161	124	150	140	131	
National Public (Average Scale Score)							
1996	148	158	120	126	129	112	90
2000	148	159	120	125	127	117	102
2005	147	159	123	127	130	120	107


NAEP - Grade 8 Science - Overall
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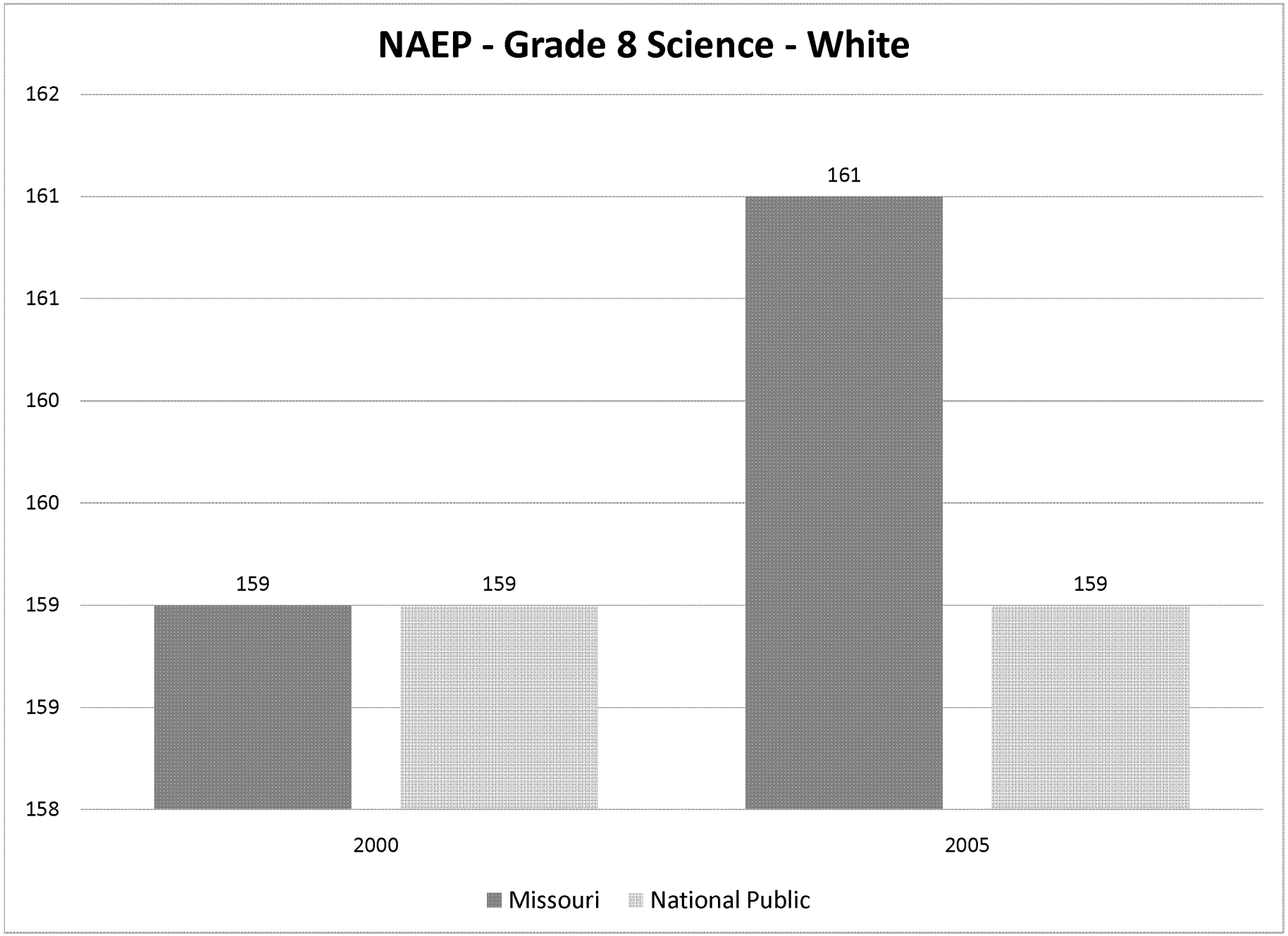
Missouri
National Public


NAEP - Grade 8 Science - White
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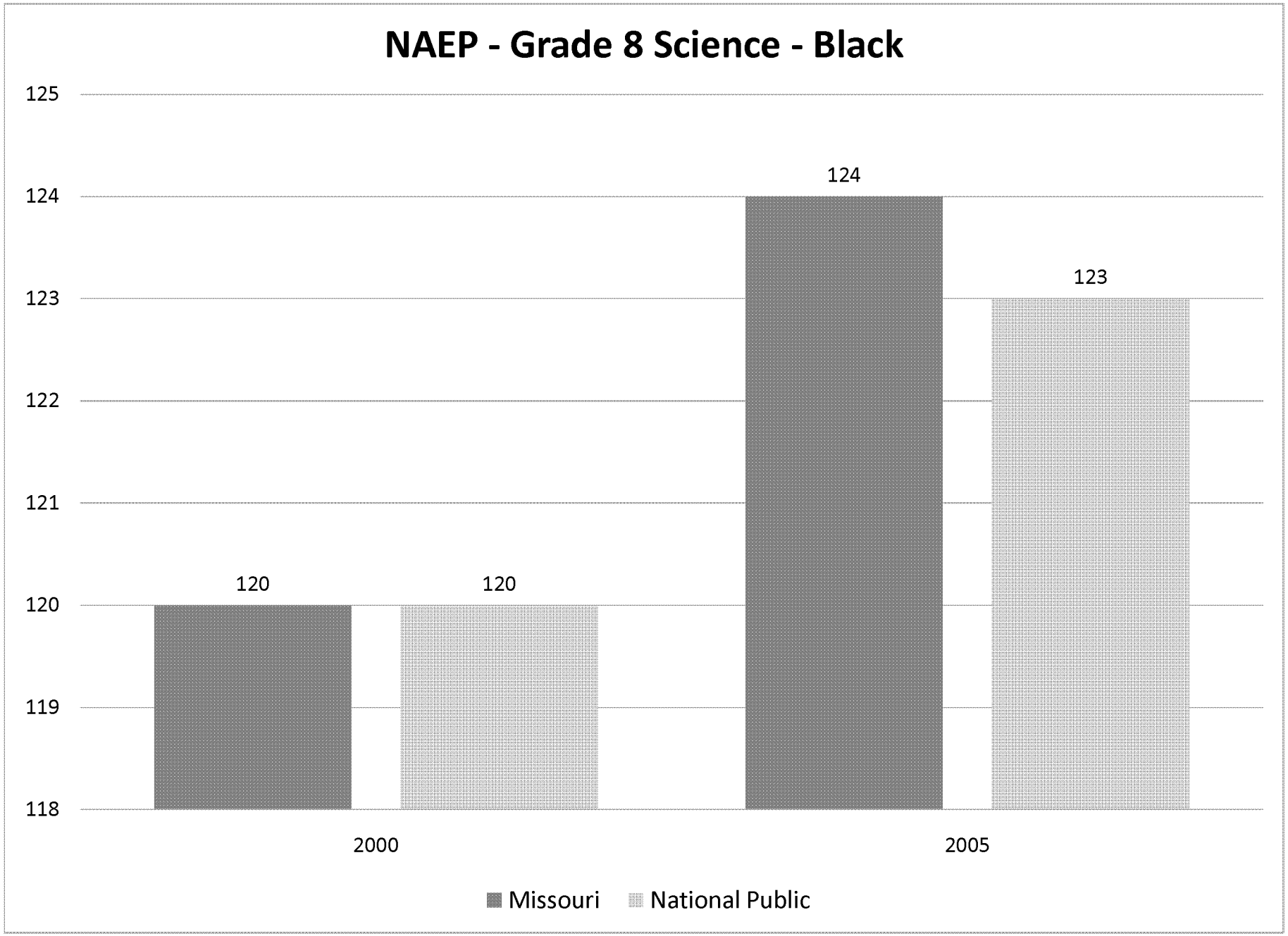
National Public


NAEP - Grade 8 Science - Black
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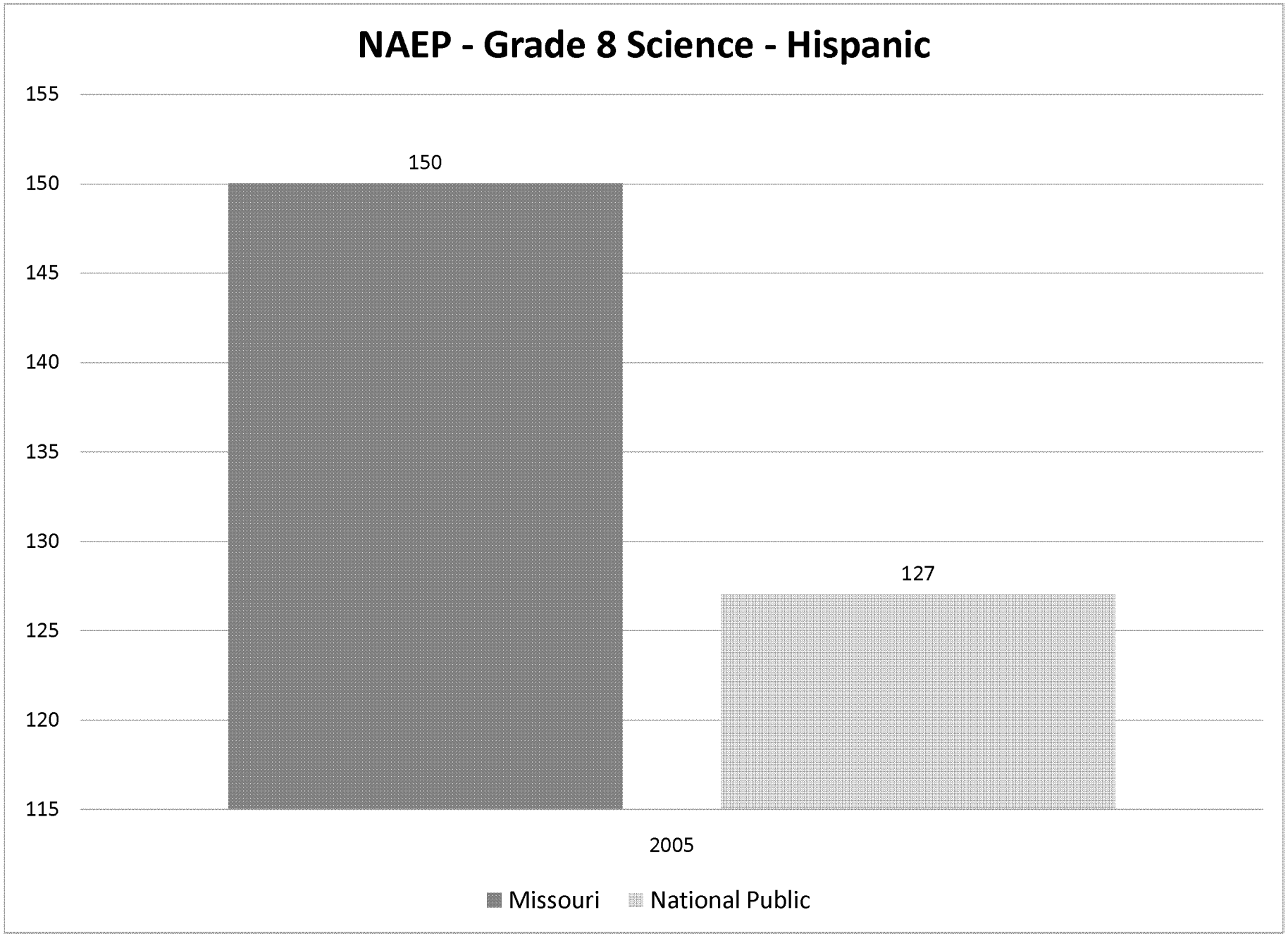
NAEP - Grade 8 Science - Hispanic
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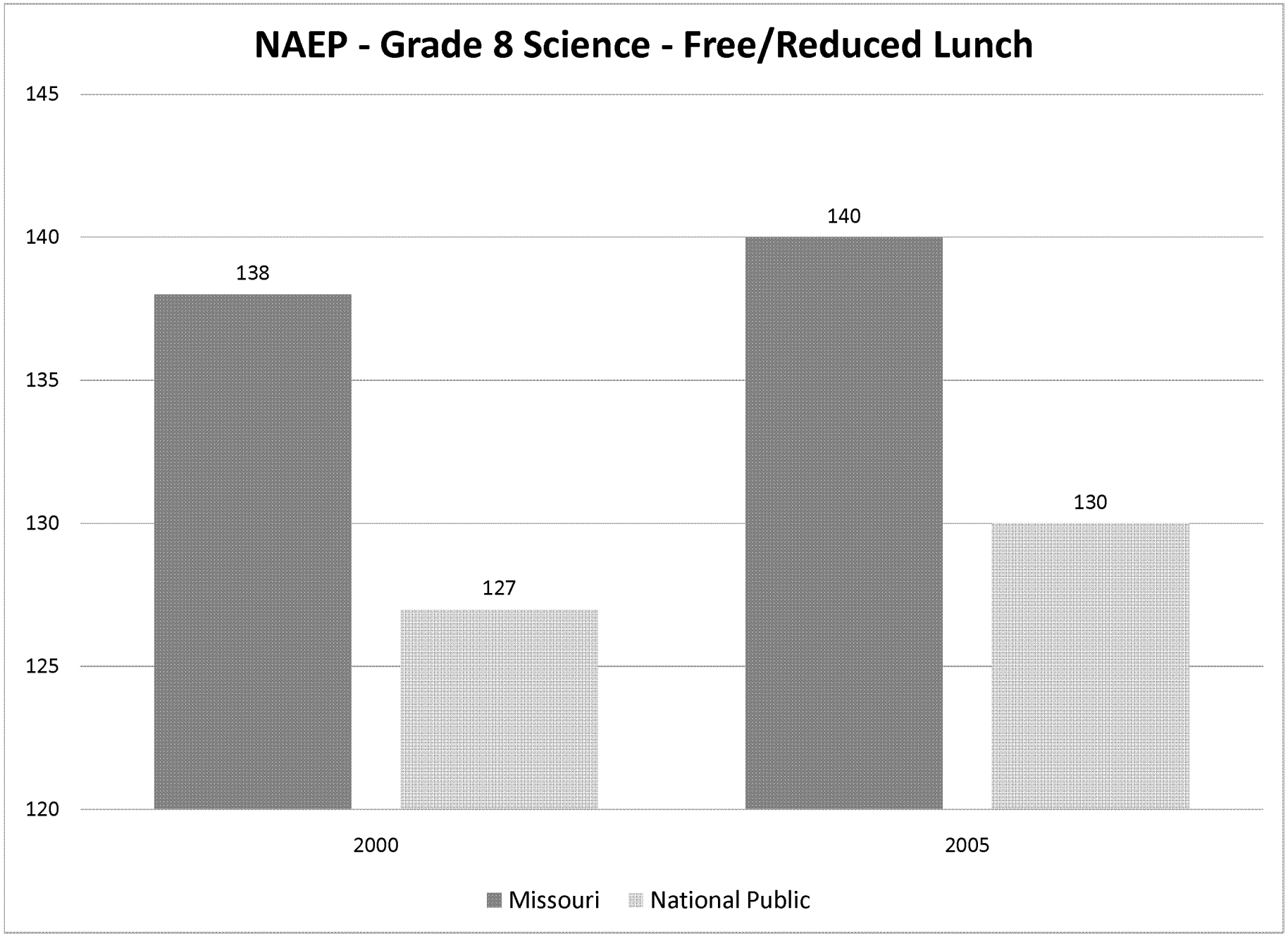
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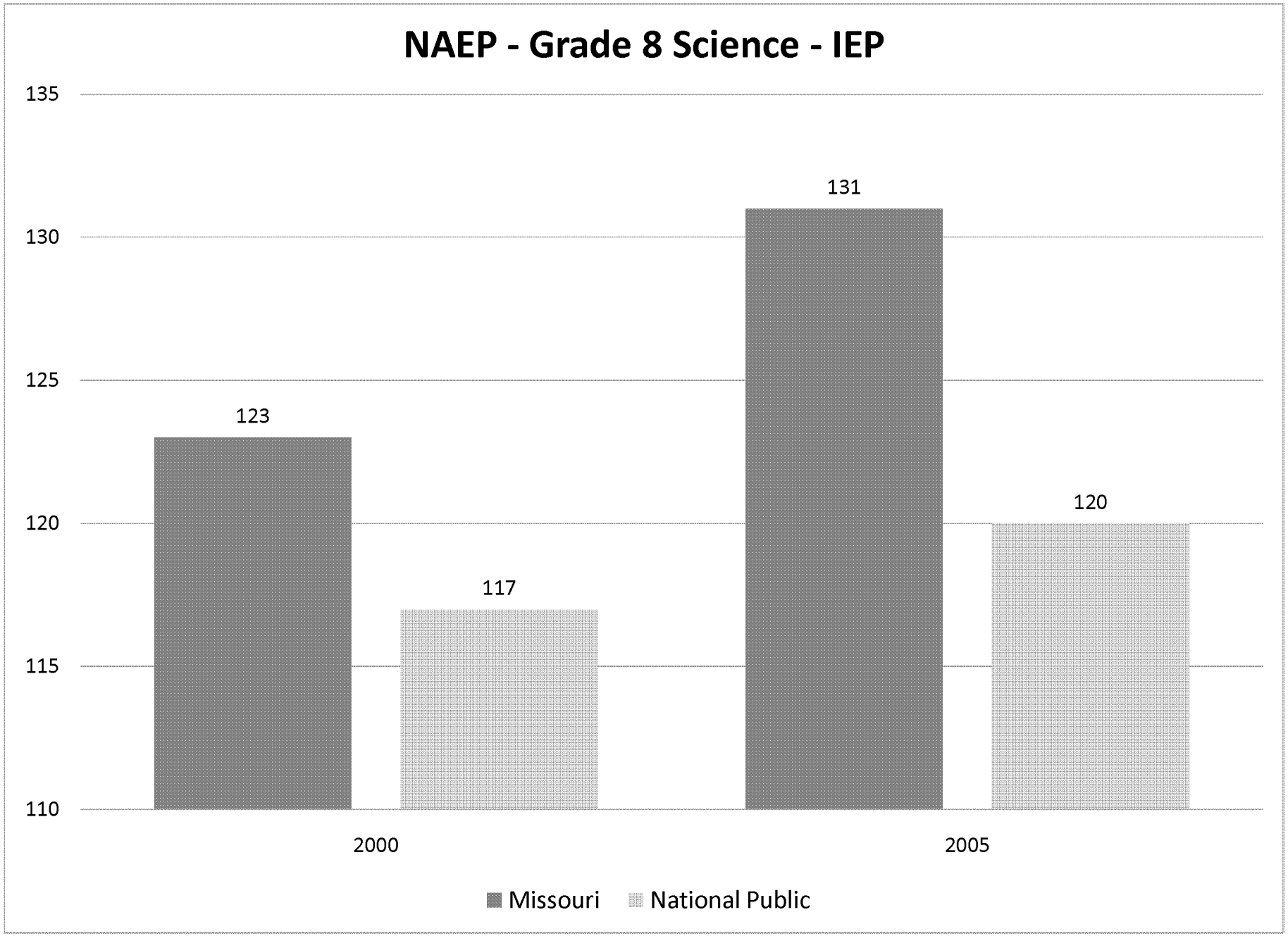
NAEP - Grade 8 Science - IEP
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Missouri
National Public

The Council of Chief State School Officers and
The National Governors Association Center for Best Practices

Common Core Standards
Memorandum of Agreement

Purpose. This document commits states to a state-led process that will draw on evidence and lead to development and adoption of a common core of state standards (common core) in English language arts and mathematics for grades K-12. These standards will be aligned with college and work expectations, include rigorous content and skills, and be internationally benchmarked. The intent is that these standards will be aligned to state assessment and classroom practice. The second phase of this initiative will be the development of common assessments aligned to the core standards developed through this process.

Background. Our state education leaders are committed to ensuring all students graduate from high school ready for college, work, and success in the global economy and society. State standards provide a key foundation to drive this reform. Today, however, state standards differ significantly in terms of the incremental content and skills expected of students.

Over the last several years, many individual states have made great strides in developing high-quality standards and assessments. These efforts provide a strong foundation for further action. For example, a majority of states (35) have joined the American Diploma Project (ADP) and have worked individually to align their state standards with college and work expectations. Of the 15 states that have completed this work, studies show significant similarities in core standards across the states. States also have made progress through initiatives to upgrade standards and assessments, for example, the New England Common Assessment Program.

Benefits to States. The time is right for a state-led, nation-wide effort to establish a common core of standards that raises the bar for all students. This initiative presents a significant opportunity to accelerate and drive education reform toward the goal of ensuring that all children graduate from high school ready for college, work, and competing in the global economy and society. With the adoption of this common core, participating states will be able to:

- Articulate to parents, teachers, and the general public expectations for students;
- Align textbooks, digital media, and curricula to the internationally benchmarked standards;
- Ensure professional development to educators is based on identified need and best practices;
- Develop and implement an assessment system to measure student performance against the common core; and
- Evaluate policy changes needed to help students and educators meet the common core standards and "end-of-high-school" expectations.

An important tenet of this work will be to increase the rigor and relevance of state standards across all participating states; therefore, no state will see a decrease in the level of student expectations that exist in their current state standards.

Process and Structure

- **Common Core State-Based Leadership.** The Council of Chief State School Officers (CCSSO) and the National Governors Association Center for Best Practices (NGA Center) shall assume responsibility for coordinating the process that will lead to state adoption of a common core of standards (see attached timeline). These organizations represent governors and state commissioners of education who are charged with defining K-12 expectations at the state level.

As such, these organizations will facilitate a state-led process to develop common core standards in English language arts and mathematics that are:

- Fewer, clearer, and higher, to best drive effective policy and practice;
- Aligned with college and work expectations, so that all students are prepared for success upon graduating from high school;
- Inclusive of rigorous content and application of knowledge through high-order skills, so that all students are prepared for the 21st century;
- Internationally benchmarked, so that all students are prepared for succeeding in our global economy and society; and
- Research and evidence-based.

- **National Validation Committee.** CCSSO and the NGA Center will create an expert validation group that will serve a several purposes, including validating end-of-course expectations, providing leadership for the development of K-12 standards, and certifying state adoption of the common core standards. The group will be comprised of national and international experts on standards. Participating states will have the opportunity to nominate individuals to the group. The national validation committee shall provide an independent review of the common core standards. The national validation committee will review the common core as it is developed and offer comments, suggestions, and validation of the process and products developed by the standards development group. The group will use evidence as the driving factor in validating the common core standards.

- **Develop End-of-High-School Expectations.** CCSSO and the NGA Center will convene Achieve, ACT and the College Board in an open, inclusive, and efficient process to develop a set of end-of-high-school expectations in English language arts and mathematics based on evidence. We will ask all participating states to review and provide input on these expectations. This work will be completed by July 2009.

- **Develop K-12 Standards in English Language Arts and Math.** CCSSO and the NGA Center will convene Achieve, ACT, and the College Board in an open, inclusive, and efficient process to develop K-12 standards that are grounded in empirical research and draw on best practices in standards development. We will ask participating states to provide input into the drafting of the common core and work as partners in the common core standards development process. This work will be completed by December 2009.

- **Adoption.** The goal of this effort is to develop a true common core of state standards that are internationally benchmarked. Each state adopting the common core standards either directly or by fully aligning its state standards may do so in accordance with current state timelines for standards adoption not to exceed three (3) years.

  This effort is voluntary for states, and it is fully intended that states adopting the common core standards may choose to include additional state standards beyond the common core standards. States that choose to align their standards to the common core standards agree to ensure that the common core represents at least 85 percent of the state's standards in English language arts and mathematics.

  Further, the goal is to establish an ongoing development process that can support continuous improvement of this first version of the common core standards based on research and evidence-based learning and can support the development of assessments that are aligned to the common core standards across the states, for accountability and other appropriate purposes.

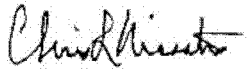
- **National Policy Forum.** CCSSO and the NGA Center will convene a National Policy Forum (Forum) comprised of signatory national organizations (e.g., the Alliance for Excellent Education, Business Roundtable, National School Boards Association, Council of Great City Schools, Hunt Institute, National Association of State Boards of Education, National Education Association, and others) to share ideas, gather input, and inform the common core standards initiative. The forum is intended as a place for refining our shared understanding of the scope and elements of a common core; sharing and coordinating the various forms of implementation of a common core; providing a means to develop common messaging between and among participating organizations; and building public will and support.

- **Federal Role.** The parties support a state-led effort and not a federal effort to develop a common core of state standards; there is, however, an appropriate federal role in supporting this state-led effort. In particular, the federal government can provide key financial support for this effort in developing a common core of state standards and in moving toward common assessments, such as through the Race to the Top Fund authorized in the American Recovery and Reinvestment Act of 2009. Further, the federal government can incentivize this effort through a range of tiered incentives, such as providing states with greater flexibility in the use of existing federal funds, supporting a revised state accountability structure, and offering financial support for states to effectively implement the standards. Additionally, the federal government can provide additional long-term financial support for the development of common assessments, teacher and principal professional development, other related common core standards supports, and a research agenda that can help continually improve the common core standards over time. Finally, the federal government can revise and align existing federal education laws with the lessons learned from states' international benchmarking efforts and from federal research.

Agreement. The undersigned state leaders agree to the process and structure as described above and attest accordingly by our signature(s) below.

Signatures
Governor:
Chief State School Officer:

Jeremiah W. (Jay) Nixon
2009.06.25 17:35:27 -05'00'



MISSOURI DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION
205 JEFFERSON STREET
POST OFFICE BOX 480
JEFFERSON CITY, MISSOURI 65102

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PHONE NUMBER:	SENDER'S REFERENCE NUMBER:
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NOTES/COMMENTS:

Policy Position

printable version

Education, Early Childhood and Workforce Committee Home

02/24/2009

ECW-03. International Benchmarking

3.1 Preamble

Around the globe, countries are identifying education outcomes and learning from top performing nations how to improve and integrate those ideas into their education systems. This process of international benchmarking has become a critical tool for nations and states striving to create world-class education systems.

International benchmarking will move the American education system beyond comparing student performance against peers in neighboring cities or states—it will shift the focus to the skills students need to compete with other students around the world. As states have primary responsibility over education, governors are in a unique position to raise standards, improve assessments, support the education workforce, and ensure consistently high performance to ultimately improve the education systems of our states and develop workers that are ready to compete in the global economy.

Governors recognize that with new technologies and corporate strategies shifting the labor market, education systems must keep pace to ensure competitiveness in a global economy. Thus, it is important that the federal government continues to play a

supporting role in assisting states as they internationally benchmark their education systems. Over time, the combination of better information, additional support, and more flexibility for innovation provided by the federal government will greatly accelerate state progress in developing and implementing world-class education systems.

3.2 Key Policy Areas for International Benchmarking

At the core, the focus of governors' work to internationally benchmark state education systems is in four key foundational and related areas: standards, assessment, human capital, and accountability. These four key areas are interrelated and must work in tandem to improve our states' education systems.

3.2.1 Standards. Clear, rigorous, and effective state content standards that stand up to the standards of high performing countries are necessary to ensure students are prepared for postsecondary education and the workplace. Governors understand the importance of clear, challenging standards and believe states should drive the initiative of upgrading education standards. As a result, governors are coming together to develop a common core of state standards for English language arts and math that are internationally benchmarked to ensure that students can compete in the global economy. Governors urge Congress to support state leadership in developing and aligning rigorous education standards.

3.2.2 Assessment. Governors are also working to streamline and align assessments to the new state-developed common core of state standards. Governors are sensitive to concerns expressed by teachers and parents regarding the number of tests students already take. In a global economy, however, governors also recognize that it is more salient to benchmark student capabilities and critical thinking skills against students of high performing countries. For these reasons, governors seek to develop common state assessments that are internationally comparable, and to do so in a manner that to the greatest extent possible does not

increase the testing burden on students or teachers.

3.2.3 Human Capital. Governors are committed to ensuring a world-class pipeline to produce, recruit, retain, and train effective teachers and school leaders. The nation's governors recognize that teacher effectiveness is one of the most important school-level factors influencing student achievement. Congress should continue to support state efforts to create a highly qualified and effective teacher and school leader workforce.

The United States is anticipating a wave of educator retirements, providing a unique opportunity for governors to elevate the role of the teaching profession and attract top performing students into the teaching profession. Governors support federal strategies such as targeted scholarships, loan forgiveness programs, and alternate routes to teaching certification to draw in new, highly skilled individuals to the teaching profession. Additionally, governors recognize the importance of setting up support systems for teachers and school leaders to maintain the high level of professional development needed to ensure our nation's educators possess the tools to train our future workforce in a global economy. Congress should support state efforts to keep effective teachers and school leaders in the profession.

3.2.4 Accountability. Governors believe the key to states' success in their international benchmarking efforts is an effective accountability system. Expectations for teachers should be aligned with evaluation and professional development. Governors urge Congress to support an accountability and data system that disaggregates school performance data to the school, principal, and teacher level to improve teacher and administrator performance.

Federal education laws including the No Child Left Behind (NCLB) Act, the Individuals with Disabilities Education Act, the Carl D. Perkins Vocational and Technical Education Act, the Higher Education Act, Head Start, and the America COMPETES Act, outline the accountability system, rules, and regulations for states and schools. Each federal law, most notably NCLB, articulates

requirements and the consequences for failing to meet the requisite targets for states and schools. An effective accountability system requires a change in the federal-state-local relationship, in which states and schools drive accountability for teacher and school leader performance. Congress should provide federal resources and flexibility for states to develop strong accountability systems.

3.3 Vision for a New Federal-State Partnership

In today's intensifying and evolving global economy, governors are committed to ensuring the viability of our nation's education system and pipeline to lifelong learning. As a result, governors are working together to improve their state education systems through a collaborative international benchmarking initiative. The goals of this governor-led initiative can be best met by Congress and the Administration continuing to support governors' authority to manage, develop, and reform their state's education system. While education is and should remain a state responsibility, governors recognize that the federal government can and does play a vital and enabling role to assist states. Specifically, the federal government can play an *enabling* role grounded in a new vision for the historic state-federal partnership in education—one that is *less* restrictive and mandate-driven and *more* encouraging of innovation and state success.

As states take on the important work of benchmarking their education systems to the best in the world, the federal government can assist states in specific ways at each stage of the journey. Benchmarking is about improving policy geared to a state's unique demographics and local demands. States must take the lead and maintain the primary authority over the policy areas: standards, assessments, the education workforce, and accountability. States already lead in raising standards; many states already have adopted a common core of college- and career-ready expectations in math and reading for high school graduation.

3.3.1 Federal Support for Governors' International

Benchmarking Efforts. The federal government should offer new funding or allow existing available funds to be used to help underwrite some or all of the cost for states to develop a common core of state standards and assessments that are internationally benchmarked. The federal government also should support governor-led work in the related areas of human capital and accountability.

3.3.2 Federal Support for Internationally Comparable Assessments. The U.S. Department of Education also should convene a technical advisory committee on assessment to make recommendations for generating internationally benchmarked results by state without imposing significant increases in costs to states, nor testing time for students. The committee should disseminate technical information about existing assessments, share policy options for improving and streamlining state assessment systems, and review the feasibility of adapting National Assessment of Educational Progress (NAEP) to generate international comparisons.

3.3.3 Increase in Federal Research and Development. At the same time, the federal government should increase its own investment and focus existing resources toward better research and development in these areas to provide state leaders with more and better information about tools for benchmarking and international best practices in education. Specifically, the U.S. Department of Education could support efforts to collect and share international achievement and attainment data relevant to states; help state leaders identify good comparison nations or provinces for benchmarking; and collect and disseminate information about best practices of high-performing and fast-improving nations and provinces around the world.

3.3.4 Tiered Incentives for States. The federal government should offer a range of tiered incentives as states reach important milestones on the way toward building internationally competitive education systems. With accountability at the core of greater results, such incentives should include: (1) increased flexibility in the use of federal funds; (2) increased flexibility in meeting

requirements of existing federal education laws so that states are not thwarted in their efforts to adapt and adopt international best practices; and (3) additional funds to help states implement world-class practices.

3.3.5 Align Federal Education Laws. Over the long term, the federal government should change existing federal laws to align national education policies with the lessons learned from states' international benchmarking efforts and from federally funded research.

Time limited (effective Winter Meeting 2009–Winter Meeting 2011).
Adopted Winter Meeting 2009.

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Dear State Partners:

Thank you so much for taking a look at this *unproofed, unformatted* final version of the Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects.

This final version is built on your excellent and thorough feedback. We want to begin by thanking you again for your work and that of your teams and the educators in your state. As you may know, we were also in receipt of ten thousand comments from the public Web site, so this draft reflects those comments as well. Finally, of course, several teacher organizations and other leading educational organizations and experts have continued to give us detailed feedback, so our work reflects this as well.

So thank you, thank you, thank you for your constructive feedback, conversation, and joint problem solving throughout the process. We never would have gotten to this final version without so much help and input from you. We hope you can now consider it your own work as well as ours.

In this note, we wanted to outline briefly themes from the feedback, how we incorporated the feedback, and what will be in the appendices and glossary that are not being sent now but will be in the published version.

Themes from the feedback and how we revised the Standards:

1. *Attending more fully to technical reading and writing*: Several states felt we had not adequately addressed technical reading and writing, and the Standards are substantially enhanced in this regard. You will notice the change in the title to make technical texts explicit. Also, we have threaded the demands of technical reading and writing throughout the grade-specific standards. Additional samples of technical reading will be added to Appendix B, and samples of student technical writing will be included in Appendix C.

2. *Ensuring text complexity is treated as a goal that does not overly constrain student reading throughout the year*: States were concerned that the way we had framed the text complexity requirements of the Standards seemed to limit attention to individual student needs during the year. We have substantially revised standard 10 on reading complex texts to ensure it is clear that it is an end-of-year expectation.

3. *Clarifying the grade-by-grade progressions, rendering them smoother and clearer to support high-quality instruction and assessment*. All of the progressions have been reviewed repeatedly and with care; we think you will find them far clearer as grade-specific standards year to year.

4. *Making sure the K–2 material is developmentally appropriate*: We have revised the K–2 standards to ensure that they are developmentally appropriate and that key skills such as fluency are extended to grade 5. In a similar vein, we have made standards pertaining to such areas as media and research applicable at the earliest grades in response to overwhelming feedback to do so.

5. *Expanding the richness of multimedia literacy and global diversity:* We have enhanced the Standards to address a fuller range of media and electronic text. We have also added clearer language on the need to study world literature and works from diverse cultures.

There are many other changes, based, as always, on our understanding of the feedback as well as the evidence for college and career readiness. We have made several clarifications that have been requested. We consider all of the changes we have made refinements, not radical revisions.

The appendices and glossary that will be published with the final Standards:

As requested, we will be adding a glossary of key terms. We are also refining Appendices A, B, and C in accord with your feedback.

Now that this is the final version, we are asking whether there are inadvertent errors that remain. Please let us know of any such errors by May 18th. We will not have the capacity to add significant new material or to make significant changes. However, we ask that states keep in mind their flexibility to add 15 percent to the Standards if they believe there is essential material that needs greater attention.

We have made every effort to listen closely and act with care and judgment. Thanks again for all your help and collaboration.

Best regards,

The ELA/Literacy Writing Team (Sue, David, and Jim)

COMMON CORE STATE STANDARDS FOR

English Language Arts
&
Literacy in History/Social Studies,
Science, and Technical Subjects

DRAFT

Table of Contents

Introduction 1

Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects K–5 8

College and Career Readiness Anchor Standards for Reading 9
Reading Standards for Literature K–5 10
Reading Standards for Informational Text K–5 13
Reading Standards: Foundational Skills (K–5) 16
College and Career Readiness Anchor Standards for Writing 19
Writing Standards K–5 20
College and Career Readiness Anchor Standards for Speaking and Listening 23
Speaking and Listening Standards K–5 24
College and Career Readiness Anchor Standards for Language 26
Language Standards K–5 27
Language Progressive Skills, by Grade 31
Standard 10: Range, Quality, and Complexity of Student Reading K–5 32
Staying on Topic Within a Grade and Across Grades 34

Standards for English Language Arts 6–12 35

College and Career Readiness Anchor Standards for Reading 36
Reading Standards for Literature 6–12 37
Reading Standards for Informational Text 6–12 40
College and Career Readiness Anchor Standards for Writing 43
Writing Standards 6–12 44
College and Career Readiness Anchor Standards for Speaking and Listening 50
Speaking and Listening Standards 6–12 51
College and Career Readiness Anchor Standards for Language 53
Language Standards 6–12 54
Language Progressive Skills, by Grade 57
Standard 10: Range, Quality, and Complexity of Student Reading 6–12 58

Standards for Literacy in History/Social Studies, Science, and Technical Subjects 60

College and Career Readiness Anchor Standards for Reading 61
Reading Standards for Literacy in History/Social Studies 6–12 62
Reading Standards for Literacy in Science and Technical Subjects 6–12 63
College and Career Readiness Anchor Standards for Writing 65
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6–12 66

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Introduction

The Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects ("the Standards") are the culmination of an extended, broad-based effort to fulfill the charge issued by the states to create the next generation of K–12 standards in order to help ensure that all students are college and career ready in literacy no later than the end of high school.

The present work, led by the Council of Chief State School Officers (CCSSO) and the National Governors Association (NGA), builds on the foundation laid by states in their decades-long work on crafting high-quality education standards. The Standards also draw on the most important international models as well as research and input from numerous sources, including state departments of education, scholars, assessment developers, professional organizations, educators from kindergarten through college, and parents, students, and other members of the public. In their design and content, refined through successive drafts and numerous rounds of feedback, the Standards represent a synthesis of the best elements of standards-related work to date and an important advance over that previous work.

As specified by CCSSO and NGA, the Standards are (1) research and evidence based, (2) aligned with college and work expectations, (3) rigorous, and (4) internationally benchmarked. A particular standard was included in the document only when the best available evidence indicated that its mastery was essential for college and career readiness in a twenty-first-century, globally competitive society. The Standards are intended to be a living work: as new and better evidence emerges, the Standards will be revised accordingly.

The Standards are an extension of a prior initiative led by CCSSO and NGA to develop College and Career Readiness (CCR) standards in reading, writing, speaking, listening, and language as well as in mathematics. The CCR Reading, Writing, and Speaking and Listening Standards, released in draft form in September 2009, serve, in revised form, as the backbone for the present document. Grade-specific K–12 standards in reading, writing, speaking, listening, and language translate the broad (and, for the earliest grades, seemingly distant) aims of the CCR standards into age- and attainment-appropriate terms.

The Standards set requirements for English language arts (ELA) but also for literacy in history/social studies, science, and technical subjects. Just as students must learn to read, write, speak, listen, and use language effectively in a variety of content areas, so too must the Standards specify the literacy skills and understandings required for college and career readiness in multiple disciplines. Literacy standards for grade 6 and above are predicated on teachers of ELA, history/social studies, science, and technical subjects using their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. It is important to note that the 6–12 literacy standards in history/social studies, science, and technical subjects are not meant to replace content standards in those areas but rather to supplement them. States may incorporate the standards into their standards for these subjects or adopt them as content area literacy standards.

As a natural outgrowth of meeting the charge to define college and career readiness, the Standards also lay out a vision of what it means to be a literate person in the twenty-first century. Indeed, the skills and understandings students are expected to demonstrate have wide applicability outside the classroom or workplace. Students who meet the Standards readily undertake the close, attentive reading that is at the heart of understanding and enjoying complex works of literature. They habitually perform the critical reading necessary to pick carefully through the staggering amount of information available today in print and digitally. They actively seek the wide, deep, and thoughtful engagement with high-quality literary and informational texts that builds knowledge, enlarges experience, and broadens worldviews. They reflexively demonstrate the cogent reasoning and use of evidence that is essential to both private deliberation and responsible citizenship in a democratic republic. In short, students who meet the Standards develop the skills in reading, writing, speaking, and listening that are the foundation for any creative and purposeful expression in language.

May 2010

Key Design Considerations

CCR and grade-specific standards

The CCR standards anchor the document and define general, cross-disciplinary literacy expectations that must be met for students to be prepared to enter college and workforce training programs ready to succeed. The K–12 grade-specific standards define end-of-year expectations and a cumulative progression designed to enable students to meet college- and career-readiness expectations no later than the end of high school. The CCR and high school grade-specific standards work in tandem to define the college- and career-readiness line—the former providing broad standards, the latter providing additional specificity. Hence, both should be considered when developing college- and career-readiness assessments.

Students advancing through the grades are expected to meet each year's grade-specific standards, retain or further develop skills and understandings mastered in preceding grades, and work steadily toward meeting the more general expectations described by the CCR standards.

Grade levels for K–8; grade bands for 9–10 and 11–12

The Standards use individual grade levels in kindergarten through grade 8 to provide useful specificity; the Standards use two-year bands in grades 9–12 to allow schools, districts, and states flexibility in high school course design.

A focus on results rather than means

By emphasizing required achievements, the Standards leave room for teachers, curriculum developers, and states to determine how those goals should be reached and what additional topics should be addressed. Thus, the Standards do not mandate such things as a particular writing process or the full range of metacognitive strategies that students may need to monitor and direct their thinking and learning. Teachers are thus free to provide students with whatever tools and knowledge their professional judgment and experience identify as most helpful for meeting the goals set out in the Standards.

An integrated model of literacy

Although the Standards are divided into Reading, Writing, Speaking and Listening, and Language strands for conceptual clarity, the processes of communication are closely connected, as reflected throughout this document. For example, Writing standard 9 requires that students be able to write about what they read. Likewise, Speaking and Listening standard 4 sets the expectation that students will share findings from their research.

Research and media skills blended into the Standards as a whole

To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, and report on information and ideas, to conduct original research in order to answer questions or solve problems, and to analyze and create a high volume and extensive range of print and nonprint texts in media forms old and new. The need to conduct research and to produce and consume media is embedded into every aspect of today's curriculum. In like fashion, research and media skills and understandings are embedded throughout the Standards rather than treated in a separate section.

Shared responsibility for students' literacy development

The Standards insist that instruction in reading, writing, speaking, listening, and language be a shared responsibility within the school. The K–5 standards include expectations for reading, writing, speaking, listening, and language applicable to a range of subjects, including but not limited to ELA. The grades 6–12 standards are divided into two sections, one for ELA and the other for history/social studies, science, and technical subjects. This division reflects the unique, time-honored place of ELA teachers in developing students' literacy skills while at the same time recognizing that teachers in other areas must have a role in this development as well.

Part of the motivation behind the interdisciplinary approach to literacy promulgated by the Standards is extensive research establishing the need for college- and career-ready students to be proficient in reading complex informational text independently in a variety of content areas. Most of the required reading in college and workforce training programs is informational in structure and challenging in content; postsecondary education programs typically provide students with both a higher volume of such reading than is generally required in K–12 schools and comparatively little scaffolding.

The Standards are not alone in calling for a special emphasis on informational text. The 2009 reading framework of the National Assessment of Educational Progress (NAEP) requires a high and increasing proportion of informational text on its assessment as students advance through the grades.

Distribution of Literary and Informational Passages by Grade in the 2009 NAEP Reading Framework

Grade	Literary	Informational
4	50%	50%
8	45%	55%
12	30%	70%

The Standards aim to align instruction with this framework so that many more students than at present can meet the requirements of college and career readiness. In K–5, the Standards follow NAEP's lead in balancing the reading of literature with the reading of informational texts, including texts in history/social studies, science, and technical subjects. In accord with NAEP's growing emphasis on informational texts in the higher grades, the Standards demand that a significant amount of reading of informational texts take place in and outside of the ELA classroom. Fulfilling the standards for 6–12 ELA requires much greater attention to a specific category of informational text—literary nonfiction—than has been traditional. Because the ELA classroom must focus on literature (stories, drama, and poetry) as well as literary nonfiction, a great deal of informational reading in grades 6–12 must take place in other classes if the NAEP assessment framework is to be matched instructionally.[1] To measure students' growth toward college and career readiness, assessments aligned with the Standards should adhere to the distribution of texts across grades cited in the NAEP framework.

NAEP likewise outlines a distribution across the grades of the core purposes and types of student writing. Similar to the Standards, the 2011 NAEP framework cultivates the development of three mutually reinforcing writing capacities: writing to persuade, to explain, and to convey real or imagined experience. Evidence concerning the demands of college and career readiness gathered during development of the Standards concurs with NAEP's shifting emphases: standards for grades 9–12 describe writing in all three forms, but, consistent with NAEP, the overwhelming focus of writing throughout high school should be on writing to argue and to inform or explain.[2]

Distribution of Communicative Purposes by Grade in the 2011 NAEP Writing Framework

Grade	To Persuade	To Explain	To Convey Experience
4	30%	35%	35%
8	35%	35%	30%
12	40%	40%	20%

It follows that writing assessments aligned with the Standards should adhere to the distribution of writing purposes across grades outlined by NAEP.

What is not *covered by the Standards*

The Standards should be recognized for what they are *not* as well as what they are. The most important intentional design limitations are as follows:

1) The Standards define what all students are expected to know and be able to do, not how teachers should teach. The Standards must be complemented by a well-developed, content-rich curriculum consistent with the expectations laid out in this document.

2) While the Standards do attempt to focus on what is most essential, they do not describe all that can or should be taught. A great deal is left to the discretion of teachers and curiculum developers. The aim of the Standards is to articulate the fundamentals, not to set out an exhaustive list nor a set of restrictions that limits what can be taught beyond what is specified herein.

3) The Standards do not define the nature of advanced work for students who meet the Standards prior to the end of high school. For those students, advanced work in such areas as literature, composition, language, and journalism should be available. This

[1] The percentages on the table reflect the sum of student reading, not just reading in ELA settings. Teachers of senior English classes, for example, are not required to devote 70 percent of reading to informational texts. Rather, 70 percent of student reading across the grade should be informational.

[2] As with reading, the percentages in the table reflect the sum of student writing, not just writing in ELA settings.

work should provide the next logical step up from the college and career readiness baseline established here.

4) The Standards set grade-specific standards but do not define the intervention methods or materials necessary to support students who are well below or well above grade-level expectations. It is also beyond the scope of the Standards to define the full range of supports appropriate for English language learners and for students with special needs. At the same time, all students must have the opportunity to learn and meet the same high standards if they are to access the knowledge and skills necessary in their post-school lives. The Standards should be read as allowing for the widest possible range of students to participate fully from the outset, along with appropriate accommodations to ensure maximum participaton of students with special education needs. For example, for students with disabilities *reading* should allow for use of Braille, screen reader technology, or other assistive devices, while *writing* should include the use of a scribe, computer, or speech-to-text technology. In a similar vein, speaking and *listening* should be interpreted broadly to include sign language. No set of grade-specific standards can fully reflect the great variety in abilities, needs, learning rates, and achievement levels of students in any given classroom. However, the Standards do provide clear signposts along the way to the goal of college and career readiness for all students.

5) While the ELA and content area literacy components described herein are critical to college and career readiness, they do not define the whole of such readiness. Students require a wide-ranging, rigorous academic preparation and, particularly in the early grades, attention to such matters as social, emotional, and physical development and approaches to learning. Similarly, the Standards define literacy expectations in history/social studies, science, and technical subjects, but literacy standards in other areas, such as mathematics and health education, modeled on those herein are strongly encouraged to allow for a comprehensive, schoolwide literacy program.

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The Student Who is College and Career Ready in Reading, Writing, Speaking, Listening, and Language

The descriptions that follow are not standards themselves but instead offer a portrait of students who meet the standards set out in this document. As students advance through the grades and master the standards in reading, writing, speaking, listening, and language, they are able to exhibit with increasing fullness and regularity these capacities of the literate individual.

- **They demonstrate independence.**

Students can, without significant scaffolding or support, comprehend and evaluate complex texts across a range of types and disciplines, and they can construct effective arguments and clearly convey intricate or multifaceted information. Likewise, students are independently able to discern a speaker's key points and request clarification if something is not understood. They ask relevant questions, build on others' ideas, articulate their own ideas, and ask for confirmation that they have been understood. Without prompting, they observe language conventions, determine word meanings, attend to the connotations of words, and acquire new vocabulary.

- **They build strong content knowledge.**

Students establish a base of knowledge across a wide range of subject matter by engaging with works of quality and substance. They become proficient in new areas through research and study. They read purposefully and listen attentively to gain both general knowledge and discipline-specific expertise. They refine and share their knowledge through writing and speaking.

- **They respond to the varying demands of audience, task, purpose, and discipline.**

Students consider their communication in relation to audience, task, purpose, and discipline. They appreciate nuances, such as how the composition of an audience should affect tone when speaking and how the connotations of words affect meaning. They also know that different disciplines call for different types of evidence (e.g., documentary evidence in history, experimental evidence in the sciences).

- **They comprehend as well as critique.**

Students are engaged and open-minded—but discerning—readers and listeners. They work diligently to understand precisely what an author or speaker is saying, but they also question an author's or speaker's assumptions and assess the veracity of claims.

- **They value evidence.**

Students cite specific evidence when offering an oral or written interpretation of a text. They use relevant evidence when supporting their own points in writing and speaking, making their reasoning clear to the reader or listener, and they constructively evaluate others' use of evidence.

- **They use technology and digital media strategically and capably.**

Students employ technology thoughtfully to enhance their reading, writing, speaking, listening, and language use. They tailor their searches online to acquire useful information efficiently, and they integrate what they learn using technology with what they learn offline. They are familiar with the strengths and limitations of various technological tools and mediums and can select and use those best suited to their communication goals.

- **They come to understand other perspectives and cultures.**

Students appreciate that the twenty-first-century classroom and workplace are settings in which people from often widely divergent cultures and who represent diverse experiences and perspectives must learn and work together. Students actively seek to understand other perspectives and cultures through reading and listening, and they are able to communicate effectively with people of varied backgrounds. They evaluate other points of view critically and constructively. Through reading great classic and contemporary works of literature representative of a variety of periods, cultures, and worldviews, students can vicariously inhabit worlds and have experiences much different than their own.

How to Read This Document

Overall Document Organization and Main Features

The Standards comprise three main sections: a comprehensive K–5 section and two content area–specific sections for grades 6–12, one for ELA and one for history/social studies, science, and technical subjects. Three appendices (lettered A, B, and C) accompany the main document.

Each section is divided into *strands*. K–5 and 6–12 ELA have Reading, Writing, Speaking and Listening, and Language strands; the 6–12 history/social studies, science, and technical subjects section focuses on Reading and Writing. Each strand is headed by a strand-specific set of *College and Career Readiness Anchor Standards* that is identical across all grades and content areas.

Standards for each grade within K–8 and for grades 9–10 and 11–12 follow the CCR standards in each strand. Each *grade-specific standard* (as these standards are collectively referred to) corresponds to the same-numbered CCR standard. Put another way, each CCR standard has an accompanying grade-specific standard translating the broader CCR statement into grade-appropriate end-of-year expectations.

Individual CCR standards can be identified by their strand, CCR status, and number (R.CCR.6, for example). Individual grade-specific standards can be identified by their strand, grade, and number or number and letter so that RI.4.3, for example, stands for Reading, Informational Text, grade 4, standard 3. Likewise, W.5.1a stands for Writing, grade 5, standard 1a. Strand designations can be found in brackets alongside the full strand title.

Who is responsible for which portion of the Standards

A single K–5 section lists CCR and grade-specific standards for reading, writing, speaking, listening, and language across the curriculum, reflecting the fact that most or all of the instruction students in these grades receive comes from one teacher. Grades 6–12 are covered in two content area–specific sections, the first for the English language arts teacher and the second for teachers of history/social studies, science, and technical subjects. Each section uses the same CCR standards but also includes grade-specific standards tuned to the literacy requirements of the particular discipline(s).

Key Features of the Standards

Reading: Text complexity and the growth of comprehension

The Reading standards place equal emphasis on the sophistication of what students read and the skill with which they read. Standard 10 defines a grade-by-grade "staircase" of increasing text complexity that rises from beginning reading to the college- and career-readiness level. Whatever they are reading, students must also show a steadily growing ability to discern more from and make fuller use of text, including making an increasing number of connections among ideas and between texts, considering a wider range of textual evidence, and becoming more sensitive to inconsistencies, ambiguities, and poor reasoning in texts.

Writing: Text types, responding to reading, and research

The Standards acknowledge the fact that whereas some writing skills, such as the ability to plan, revise, edit, and publish, are applicable to many types of writing, other skills are more properly defined in terms of specific writing types: arguments, informative/explanatory texts, and narratives. Standard 9 stresses the importance of the writing-reading connection by requiring students to draw and write about evidence from literary and informational texts. Because of the centrality of writing to most forms of inquiry, research standards are prominently included in this strand, though skills important to research are infused throughout the document.

Speaking and Listening: Flexible communication and collaboration

Including but not limited to skills necessary for formal presentations, the Speaking and Listening standards require students to develop a range of broadly useful oral communication and interpersonal skills. Students must learn to work together, express and listen to ideas, integrate information from oral, visual, and multimodal sources, evaluate what they hear, use digital media and visual displays strategically to help achieve communicative purposes, and adapt speech to context and task.

Language: Conventions and vocabulary

The standards on conventions and effective language use include the essential "rules" of formal written and spoken English, but they also approach language as a matter of craft and informed choice among alternatives. The vocabulary standards focus on understanding words, their relationships, and

their nuances and on acquiring new words and phrases, particularly general academic and domain-specific vocabulary.

Appendices A, B, and C

Appendix A contains supplementary material on reading, writing, speaking and listening, and language as well as a glossary of key terms. Appendix B consists of text exemplars illustrating the complexity, quality, and range of reading appropriate for various grade levels. Appendix C includes annotated samples demonstrating at least adequate performance in student writing at various grade levels.

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Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

K–5

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College and Career Readiness Anchor Standards for Reading

The K–5 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

Craft and Structure

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and explain how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented graphically, visually, orally, and multimodally as well as in words within and across print and digital sources.*
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

*Please see "Research to Build and Present Knowledge" in Writing and "Comprehension and Collaboration" in Speaking and Listening for additional standards relevant to gathering, assessing, and applying information from print and digital sources.

Note on range and content of student reading

To build a foundation for college and career readiness, students must read widely and deeply from among a broad range of high-quality, increasingly challenging literary and informational texts. Through extensive reading of stories, dramas, poems, and myths from diverse cultures and different time periods, students gain literary and cultural knowledge as well as familiarity with various text structures and elements. By reading texts in history/social studies, science, and other disciplines, students build a foundation of knowledge in these fields that will also give them the background to be better readers in all content areas. Students can only gain this foundation when the curriculum is intentionally and coherently structured to develop rich content knowledge within and across grades. Students also acquire the habits of reading independently and closely, which are essential to their future success.

Reading Standards for Literature K–5 [RL]

The following standards offer a focus for instruction each year and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.

Kindergartners:	Grade 1 students:	Grade 2 students:
Key Ideas and Details		
1. With prompting and support, ask and answer questions about key details in a text.	**1.** Ask and answer questions about key details in a text.	**1.** Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text.
2. With prompting and support, retell familiar stories, including key details.	**2.** Retell stories, including key details, and demonstrate understanding of their central message or lesson.	**2.** Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral.
3. With prompting and support, identify characters, settings, and major events in a story.	**3.** Describe characters, settings, and major events in a story, using key details.	**3.** Describe how characters in a story respond to major events and challenges.
Craft and Structure		
4. Ask and answer questions about unknown words in a text.	**4.** Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.	**4.** Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song.
5. Recognize common types of texts (e.g., storybooks, poems).	**5.** Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.	**5.** Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.
6. With prompting and support, name the author and illustrator of a story and define the role of each in telling the story.	**6.** Identify who is telling the story at various points in a text.	**6.** Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud.
Integration of Knowledge and Ideas		
7. With prompting and support, describe the connection between pictures or other illustrations and the overall story in which they appear.	**7.** Refer to pictures, illustrations, and details in a story to describe characters, setting, or events.	**7.** Use information from illustrations, other visual elements (e.g., maps), and the words in a print or digital text to demonstrate understanding of the characters, setting, or plot.
8. (Not applicable to literature)	**8.** (Not applicable to literature)	**8.** (Not applicable to literature)
9. With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories.	**9.** Compare and contrast the adventures and experiences of characters in stories.	**9.** Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures.
Range of Reading and Level of Text Complexity		
10. Actively engage in group reading activities with purpose and understanding.	**10.** With prompting and support, read appropriately complex prose and poetry for grade 1.	**10.** By the end of the year, read literature, including stories, poetry, and drama, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Grade 3 students:	Grade 4 students:	Grade 5 students:
Key Ideas and Details		
1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	**1.** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.	**1.** Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text.	**2.** Determine a theme of a story, drama, or poem from details in the text; summarize the text.	**2.** Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.
3. Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.	**3.** Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).	**3.** Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.	**4.** Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., *Herculean*), drawing on a wide reading of classic myths from a variety of cultures and periods.	**4.** Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.
5. Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as *chapter*, *scene*, and *stanza*; describe how each successive part builds on earlier sections.	**5.** Explain major differences between poems, drama, and prose and refer to the core structural elements of poems (e.g., stanza, verse, rhythm, meter) and drama (e.g., casts of characters, setting descriptions, dialogue, acts, scenes, stage directions) when writing or speaking about a text.	**5.** Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.
6. Distinguish their own point of view from that of the narrator or those of the characters.	**6.** Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.	**6.** Describe how a narrator's or speaker's point of view influences how events are described.
Integration of Knowledge and Ideas		
7. Explain how specific images and illustrations contribute to or clarify a story (e.g., create mood, emphasize particular aspects of characters or settings).	**7.** Integrate information gained from illustrations and other visual elements in a text with the words to demonstrate understanding of how the characters, setting, and plot interact and develop.	**7.** Analyze how visual and multimedia elements in conjunction with words contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction).
8. (Not applicable to literature)	**8.** (Not applicable to literature)	**8.** (Not applicable to literature)
9. Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from a series).	**9.** Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.	**9.** Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics.

Grade 3 students:	Grade 4 students:	Grade 5 students:
Range of Reading and Level of Text Complexity		
10. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 2–3 text complexity band independently and proficiently.	**10.** By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.	**10.** By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 4–5 text complexity band independently and proficiently.

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Kindergartners:	Grade 1 students:	Grade 2 students:
Key Ideas and Details		
1. With prompting and support, ask and answer questions about key details in a text.	**1.** Ask and answer questions about key details in a text.	**1.** Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text.
2. With prompting and support, identify the main topic and retell key details of a text.	**2.** Identify the main topic and retell key details of a text.	**2.** Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.
3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	**3.** Describe the connection between two individuals, events, ideas, or pieces of information in a text.	**3.** Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
Craft and Structure		
4. With prompting and support, ask and answer questions about unknown words in a text.	**4.** Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.	**4.** Determine the meaning of words and phrases in a text relevant to a *grade 2 topic or subject area*.
5. Identify the front cover, back cover, and title page of a book.	**5.** Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.	**5.** Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text quickly and efficiently.
6. Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.	**6.** Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.	**6.** Identify the main purpose of a text, including what the author wants to answer, explain, or describe.
Integration of Knowledge and Ideas		
7. With prompting and support, describe the connection between pictures or other illustrations and the overall text in which they appear.	**7.** Use pictures, illustrations, and details in a text to describe its key ideas.	**7.** Explain how specific images and other illustrations contribute to and clarify a text (e.g., show how something works).
8. With prompting and support, identify the reasons an author gives to support points in a text.	**8.** Identify the reasons an author gives to support points in a text.	**8.** Describe how reasons support specific points the author makes in a text.
9. With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).	**9.** Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).	**9.** Compare and contrast the most important points presented by two texts on the same topic.
Range of Reading and Level of Text Complexity		
10. Actively engage in group reading activities with purpose and understanding.	**10.** With prompting and support, read appropriately complex informational texts for grade 1.	**10.** By the end of year, read and comprehend informational texts, including historical, scientific and technical texts, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range

Grade 3 students:	Grade 4 students:	Grade 5 students:
Key Ideas and Details		
1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	**1.** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.	**1.** Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Determine the main idea of a text; recount the key details and explain how they support the main idea.	**2.** Determine the main idea of a text and explain how it is supported by key details; summarize the text.	**2.** Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.
3. Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.	**3.** Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.	**3.** Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.
Craft and Structure		
4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 3 topic or subject area*.	**4.** Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a *grade 4 topic or subject area*.	**4.** Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 5 topic or subject area*.
5. Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic quickly and efficiently.	**5.** Describe the overall structure of events, ideas, concepts, or information (e.g., chronology, comparison, cause/effect) in a text or part of a text.	**6.** Compare and contrast the organizational structure of events, ideas, concepts, or information (e.g., chronology, comparison, cause/effect, problem/solution) in two or more texts.
6. Distinguish their own point of view from that of the author of a text.	**6.** Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.	**7.** Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.
Integration of Knowledge and Ideas		
7. Use information gained from illustrations, other visual elements (e.g., maps, photographs), and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).	**7.** Interpret factual information presented graphically or visually (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to understanding the text in which they appear.	**7.** Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
8. Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence).	**8.** Explain how an author uses reasons and evidence to support particular points in a text.	**8.** Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence supports which point(s).
9. Compare and contrast the most important points and key details presented in two texts on the same topic.	**9.** Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.	**9.** Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

Grade 3 students:	Grade 4 students:	Grade 5 students:
Range of Reading and Level of Text Complexity		
10. By the end of the year, read and comprehend informational texts, including historical, scientific, and technical texts, in the grades 2–3 text complexity band independently and proficiently.	**10.** By the end of year, read and comprehend informational texts, including historical, scientific, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as necessary at the high end of the range.	**10.** By the end of the year, read and comprehend informational text, including historical, scientific, and technical texts, in the grades 4–5 text complexity band level independently and proficiently.

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Reading Standards: Foundational Skills (K–5) [RF]

These standards are directed toward fostering students' understanding and working knowledge of concepts of print, the alphabetic principle, and other basic conventions of the English writing system. These Foundational Skills are not an end in and of themselves; rather, they are necessary and important components of an effective, comprehensive reading program designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines. Instruction should be differentiated: Good readers will need much less practice with these concepts than struggling readers. The point is to teach students what they need to learn and not what they already know—to discern when particular children or activities warrant more or less attention.

**** In Kindergarten children are expected to demonstrate increasing awareness and competence in the areas that follow.***

Kindergartners:	Grade 1 students:
Print Concepts	
1. Demonstrate understanding of the organization and basic features of print. a. Follow words from left to right, top to bottom, and page-by-page. b. Recognize that spoken words are represented in written language by specific sequences of letters. c. Understand that words are separated by spaces in print. d. Recognize and name all upper- and lowercase letters of the alphabet.	**1.** Demonstrate understanding of the organization and basic features of print. a. Recognize the distinguishing features of a sentence (e.g., first word, capitalization, ending punctuation).
Phonological Awareness	
2. Demonstrate understanding of spoken words, syllables, and sounds (phonemes). a. Recognize and produce rhyming words. b. Count, pronounce, blend, and segment syllables in spoken words. c. Blend and segment onsets and rimes of single-syllable spoken words. d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (CVC) words.[1] (This does not include CVCs ending with /l/, /r/, or /x/.) e. Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words.	**2.** Demonstrate understanding of spoken words, syllables, and sounds (phonemes). a. Distinguish long from short vowel sounds in spoken single-syllable words . b. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends. c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. d. Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).

[1]Words, syllables, or phonemes written in /slashes/ refer to their pronunciation or phonology. Thus, /CVC/ is a word with three phonemes regardless of the number of letters in the spelling of the word.

** In Kindergarten children are expected to demonstrate increasing awareness and competence in the areas that follow.*

Kindergartners:*	Grade 1 students:	Grade 2 students:
Phonics and Word Recognition		
3. Know and apply grade-level phonics and word analysis skills in decoding words. a. Demonstrate basic knowledge of letter-sound correspondences by producing the primary or most frequent sound for each consonant. b. Associate the long and short sounds with the common spellings (graphemes) for the five major vowels. c. Read common high-frequency words by sight. (e.g., *the*, *of*, *to*, *you*, *she*, *my*, *is*, *are*, *do*, *does*). d. Distinguish between similarly spelled words by identifying the sounds of the letters that differ.	**3.** Know and apply grade-level phonics and word analysis skills in decoding words. a. Know the spelling-sound correspondences for common consonant digraphs.(two letters that represent one sound). b. Decode regularly spelled one-syllable words. c. Know final *-e* and common vowel team conventions for representing long vowel sounds. d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word. e. Decode two-syllable words following basic patterns by breaking the words into syllables. f. Read words with inflectional endings. g. Recognize and read grade-appropriate irregularly spelled words.	**3.** Know and apply grade-level phonics and word analysis skills in decoding words. a. Distinguish long and short vowels when reading regularly spelled one-syllable words. b. Know spelling-sound correspondences for additional common vowel teams. c. Decode regularly spelled two-syllable words with long vowels. d. Decode words with common prefixes and suffixes. e. Identify words with inconsistent but common spelling-sound correspondences. f. Recognize and read grade-appropriate irregularly spelled words.
4. Read emergent-reader texts with purpose and understanding.	**4.** Read with sufficient accuracy and fluency to support comprehension. a. Read on-level text with purpose and understanding. b. Read on-level text orally with accuracy, appropriate rate, and expression. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.	**4.** Read with sufficient accuracy and fluency to support comprehension. a. Read on-level text with purpose and understanding. b. Read on-level text orally with accuracy, appropriate rate, and expression. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

Grade 3 students:	Grade 4 students:	Grade 5 students:
Phonics and Word Recognition		
3. Know and apply grade-level phonics and word analysis skills in decoding words. a. Identify and know the meaning of the most common prefixes and derivational suffixes. b. Decode words with common Latin suffixes. c. Decode multisyllable words. d. Read grade-appropriate irregularly spelled words.	**3.** Know and apply grade-level phonics and word analysis skills in decoding words. a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multi-syllabic words in context and out of context.	**3.** Know and apply grade-level phonics and word analysis skills in decoding words. a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multi-syllabic words in context and out of context.
Fluency		
4. Read with sufficient accuracy and fluency to support comprehension. a. Read on-level text with purpose and understanding. b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.	**4.** Read with sufficient accuracy and fluency to support comprehension. a. Read on-level text with purpose and understanding. b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.	**4.** Read with sufficient accuracy and fluency to support comprehension. a. Read on-level text with purpose and understanding. b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

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College and Career Readiness Anchor Standards for Writing

The K–5 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Text Types and Purposes[1]

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.[2]
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

[1]These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.
[2]See standards 1–3 in Language, pages 26–31, for specific editing expectations.

Note on range and content of student writing

To build a foundation for college and career readiness, students need to learn to use writing as a way of offering and supporting opinions, demonstrating understanding of the subjects they are studying, and conveying real and imagined experiences and events. They learn to appreciate that a key purpose of writing is to communicate clearly to an external, sometimes unfamiliar audience, and they begin to adapt the form and content of their writing to accomplish a particular task and purpose.. They develop the capacity to build knowledge on a subject through research projects and to respond analytically to literary and informational sources. To meet these goals, students must devote significant time and effort to writing, producing numerous pieces over short and extended time frames throughout the year.

Writing Standards K–5

[W]

The following standards for K–5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades. The expected growth in student writing ability is reflected both in the standards themselves and in the collection of annotated student writing samples in Appendix C.

Kindergartners:	Grade 1 students:	Grade 2 students:
Text Types and Purposes		
1. Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., *My favorite book is . . .*).	**1.** Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.	**1.** Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., *because*, *and*, *also*) to connect opinion and reasons, and provide a concluding statement or section.
2. Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.	**2.** Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.	**2.** Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.
3. Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.	**3.** Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.	**3.** Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure.
Production and Distribution of Writing		
4. (Begins in grade 3)	**4.** (Begins in grade 3)	**4.** (Begins in grade 3)
5. With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed.	**5.** With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.	**5.** With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.
6. With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.	**6.** With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.	**6.** With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.
Research to Build and Present Knowledge		
7. Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).	**7.** Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).	**7.** Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).
8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.	**8.** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.	**8.** Recall information from experiences or gather information from provided sources to answer a question.
9. (Begins in grade 4)	**9.** (Begins in grade 4)	**9.** (Begins in grade 4)
Range of Writing		
10. (Begins in grade 3)	**10.** (Begins in grade 3)	**10.** (Begins in grade 3)

Grade 3 students:	Grade 4 students:	Grade 5 students:
Text Types and Purposes		
1. Write opinion pieces on familiar topics or texts, supporting a point of view with reasons. a. Introduce the topic or book they are writing about, state an opinion, and create an organizational structure that lists reasons. b. Provide reasons that support the opinion. c. Use linking words and phrases (e.g., *because*, *therefore*, *since*, *for example*) to connect opinion and reasons. d. Provide a concluding statement or section.	**1.** Write opinion pieces on topics or texts, supporting a point of view with reasons and information. a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose. b. Provide reasons that are supported by facts and details. c. Link opinion and reasons using words and phrases (e.g., *for instance*, *in order to, in addition*). d. Provide a concluding statement or section related to the opinion presented.	**1.** Write opinion pieces on topics or texts, supporting a point of view with reasons and information. a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose. b. Provide logically ordered reasons that are supported by facts and details. c. Link opinion and reasons using words, phrases, and clauses (e.g., *consequently*, *specifically*). d. Provide a concluding statement or section related to the opinion presented.
2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly. a. Introduce a topic and group related information together; include illustrations when useful to aiding comprehension. b. Develop the topic with facts, definitions, and details. c. Use linking words and phrases (e.g., *also*, *another*, *and*, *more*, *but*) to connect ideas within categories of information. d. Provide a concluding statement or section.	**2.** Write informative/explanatory texts to examine a topic and convey ideas and information clearly. a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. c. Link ideas within categories of information using words and phrases (e.g., *another*, *for example*, *also*, *because*). d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Provide a concluding statement or section related to the information or explanation presented.	**2.** Write informative/explanatory texts to examine a topic and convey ideas and information clearly. a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic. c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., *in contrast*, *especially*). d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Provide a concluding statement or section related to the information or explanation presented.
3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. a. Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally. b. Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations. c. Use temporal words and phrases to signal event order. d. Provide a sense of closure.	**3.** Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. a. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. b. Use dialogue and description to develop experiences and events or show the responses of characters to situations. c. Use a variety of transitional words and phrases to manage the sequence of events. d. Use concrete words and phrases and sensory details to convey experiences and events precisely. e. Provide a conclusion that follows from the narrated experiences or events.	**3.** Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. a. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. b. Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations. c. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. d. Use concrete words and phrases and sensory details to convey experiences and events precisely. e. Provide a conclusion that follows from the narrated experiences or events.

Grade 3 students:	Grade 4 students:	Grade 5 students:
Production and Distribution of Writing		
4. With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	**4.** Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	**4.** Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.	**5.** With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.	**5.** With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.	**6.** With some guidance and support from adults, use technology, including the Internet, to produce and publish writing (using the keyboard) as well as to interact and collaborate with others.	**6.** With some guidance and support from adults, use technology, including the Internet, to produce and publish a minimum of two pages of writing (using the keyboard) as well as to interact and collaborate with others.
Research to Build Knowledge		
7. Conduct short research projects that build knowledge about a topic.	**7.** Conduct short research projects that build knowledge through investigation of different aspects of a topic.	**7.** Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.
8. Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.	**8.** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.	**8.** Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.
9. (Begins in grade 4)	**9.** Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply *grade 4 Reading standards* to literature (e.g., "Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text"). b. Apply *grade 4 Reading standards* to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text").	**9.** Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply *grade 5 Reading standards* to literature (e.g., "Compare and contrast two or more characters, settings, or events in a story or a drama, drawing on specific details in the text"). b. Apply *grade 5 Reading standards* to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence supports which point[s]").
Range of Writing		
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	**10.** Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	**10.** Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

College and Career Readiness Anchor Standards for Speaking and Listening

The K–5 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Comprehension and Collaboration

1. Prepare for and participate effectively in a range of conversations and collaborations, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate content from multiple graphical, visual, oral, or multimodal sources.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas

4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

Note on range and content of student speaking and listening

To build a foundation for college and career readiness, students must have ample opportunities to take part in a variety of rich, structured conversations—as part of a whole class, in small groups, and with a partner. Being productive members of these conversations requires that students contribute accurate, relevant information; respond to and develop what others have said; make comparisons and contrasts; and analyze and synthesize a multitude of ideas in various domains.

New technologies have broadened and expanded the role that speaking and listening play in acquiring and sharing knowledge and have tightened their link to other forms of communication. Digital texts confront students with the potential for continually updated content and dynamically changing combinations of words, graphics, images, hyperlinks, and embedded video and audio.

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The following standards for K–5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.

Kindergartners:	Grade 1 students:	Grade 2 students:
Comprehension and Collaboration		
1. Participate in collaborative conversations about *kindergarten topics and texts* with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). b. Continue a conversation through multiple exchanges.	**1.** Participate in collaborative conversations about *grade 1 topics and texts* with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. c. Ask questions to clear up any confusion about the topics and texts under discussion.	**1.** Participate in collaborative conversations about *grade 2 topics and texts* with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). b. Build on others' talk in conversations by linking their comments to the remarks of others. c. Ask for clarification and further explanation as needed about the topics and texts under discussion.
2. Confirm understanding of written texts read aloud or information presented orally or through media by asking and answering questions about key details.	**2.** Demonstrate understanding of written texts read aloud or information presented orally or through media by asking and answering questions about key details and restating key elements.	**2.** Recount or describe key ideas or details from written texts read aloud or information presented orally or through media.
3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.	**3.** Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.	**3.** Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
Presentation of Knowledge and Ideas		
4. Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.	**4.** Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.	**4.** Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.
5. Add drawings or other visual displays to descriptions as desired to provide additional detail.	**5.** Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.	**5.** Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.
6. Speak audibly and express thoughts, feelings, and ideas clearly.	**6.** Produce complete sentences when appropriate to task and situation. (See standards 1–3 in Language, pages 26–31, for specific expectations.)	**6.** Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See standards 1–3 in Language, pages 26–31, for specific expectations.)

Grade 3 students:	Grade 4 students:	Grade 5 students:
Comprehension and Collaboration		
1. Engage effectively in a range of collaborative discussions (one-on-one and in groups) on *grade 3 topics and texts*, building on others' ideas and expressing their own clearly. a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). b. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. c. Explain their own ideas and understanding in light of the discussion.	**1.** Engage effectively in range of collaborative discussions (one-on-one and in groups) on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussions. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.	**1.** Engage effectively in a range of collaborative discussions (one-on-one and in groups) on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.
2. Identify the main ideas and supporting details of written texts read aloud or information presented graphically, orally, visually, or multimodally.	**2.** Paraphrase portions of written texts read aloud or information presented graphically, orally, visually, or multimodally.	**2.** Summarize written texts read aloud or information presented graphically, orally, visually, or multimodally.
3. Ask and answer questions about information from a speaker's, offering appropriate elaboration and detail.	**3.** Identify the reasons and evidence a speaker provides to support particular points.	**3.** Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.
Presentation of Knowledge and Ideas		
4. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.	**4.** Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.	**4.** Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
5. Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.	**5.** Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.	**5.** Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.
6. Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See standards 1–3 in Language, pages 26–31, for specific expectations.)	**6.** Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation. (See standards 1–3 in Language, pages 26–31, for specific expectations.)	**6.** Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation. (See standards 1–3 in Language, pages 26–31, for specific expectations.)

College and Career Readiness Anchor Standards for Language

The K–5 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Conventions

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
2. Demonstrate command of the conventions of capitalization, punctuation, and spelling when writing.

Effective Language Use

3. Use language to enhance meaning, convey style, and achieve particular effects when writing or speaking.

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
5. Demonstrate understanding of word relationships and nuances in word meanings.
6. Acquire and use accurately a range of general academic and domain-specific vocabulary sufficient for reading, writing, speaking, and listening at the college and career readiness level.

Note on range and content of student language use

To build a foundation for college and career readiness in language, students must gain control over many conventions of grammar, usage, and mechanics as well as learn ways to use language to enhance meaning. They must also be able to determine or clarify the meaning of grade-appropriate words encountered through listening, reading, and media use, come to appreciate that words have nonliteral meanings, shadings of meaning, and relationships to other words, and expand their vocabulary in the course of studying content. The inclusion of Language standards in their own strand should not be taken as an indication that skills related to conventions, effective language use, and vocabulary are unimportant to reading, writing, speaking, and listening; indeed, they are inseparable from such contexts.

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Language Standards K–5 [L]

The following standards for grades K–5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades. Beginning in grade 3, skills and understandings that are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking are marked with an asterisk (*). See the table on page 31 for a complete list and Appendix A for an example of how these skills develop in sophistication.

Kindergartners:	Grade 1 students:	Grade 2 students:
Conventions		
1. Observe conventions of grammar and usage when writing or speaking. a. Print many upper- and lowercase letters. b. Use frequently occurring nouns and verbs. c. Form regular plural nouns orally by adding /s/ or /es/ (e.g., *dog*, *dogs*; *wish*, *wishes*). d. Understand and use question words (interrogatives) (e.g., *who*, *what*, *where*, *when*, *why*, *how*). e. Use the most frequently occurring prepositions (e.g., *to*, *from*, *in*, *out*, *on*, *off*, *for*, *of*, *by*, *with*). f. Produce and expand complete sentences in shared language activities.	**1.** Observe conventions of grammar and usage when writing or speaking. a. Print all upper- and lowercase letters. b. Use common, proper, and possessive nouns. c. Use singular and plural nouns with matching verbs in basic sentences (e.g., *He hops*; *We hop*). d. Use personal, possessive, and indefinite pronouns (e.g., *I*, *me*, *my*; *they*, *them*, *their*, *anyone*, *everything*). e. Use verbs to convey a sense of past, present, and future (e.g., *Yesterday I walked home*; *Today I walk home*; *Tomorrow I will walk home*). f . Use frequently occurring adjectives. g. Use frequently occurring conjunctions (e.g., *and*, *but*, *or*, *so*, *because*). g. Use determiners (e.g., articles, demonstratives). h. Use frequently occurring prepositions (e.g., *during*, *beyond*, *toward*). i. Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to questions and prompts.	**1.** Observe conventions of grammar and usage when writing or speaking. a. Use collective nouns (e.g., *group*). b. Form and use frequently occurring irregular plural nouns (e.g., *feet*, *children*, *teeth*, *mice*, *fish*). c. Use reflexive pronouns (e.g., *myself*, *ourselves*). d. Form and use the past tense of frequently occurring irregular verbs (e.g., *sat*, *hid*, *told*). e. Use adjectives and adverbs, and choose between them depending on what is to be modified. f. Produce, expand, and rearrange complete simple and compound sentences (e.g., *The boy watched the movie*; *The little boy watched the movie*; *The action movie was watched by the little boy*).
2. Observe conventions of capitalization, punctuation, and spelling when writing. a. Capitalize the first word in a sentence and the pronoun *I*. b. Recognize and name end punctuation. c. Write a letter or letters for most consonant and short-vowel sounds (phonemes). d. Spell simple words phonetically, drawing on knowledge of sound-letter relationships.	**2.** Observe conventions of capitalization, punctuation, and spelling when writing. a. Capitalize dates and names of people. b. Use end punctuation for sentences. c. Use commas in dates and to separate single words in a series. d. Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words. e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions.	**2.** Observe conventions of capitalization, punctuation, and spelling when writing. a. Capitalize holidays, product names, and geographic names. b. Use commas in greetings and closings of letters. c. Use an apostrophe to form contractions and frequently occurring possessives. d. Generalize learned spelling patterns when writing words (e.g., *cage* → *badge*; *boy* → *boil*). e. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.
Effective Language Use		
3. (Begins in grade 3)	**3.** (Begins in grade 3)	**3.** (Begins in grade 3)

Kindergartners:	Grade 1 students:	Grade 2 students:
Vocabulary Acquisition and Use		
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *kindergarten reading and content*. a. Identify new meanings for familiar words and apply them accurately (e.g., knowing *duck* as a bird and learning the verb *to duck*). b. Use the most frequently occurring inflections and affixes (e.g., *-ed*, *-s*, *re-*, *un-*, *pre-*, *-ful*, *-less*) as a clue to the meaning of an unknown word.	**4.** Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 1 reading and content*, choosing flexibly from an array of strategies. a. Use sentence-level context as a clue to the meaning of a word or phrase. b. Use frequently occurring affixes as a clue to the meaning of a word. c. Identify frequently occurring root words (e.g., *look*) and their inflectional forms (e.g., *looks*, *looked*, *looking*).	**4.** Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 2 reading and content*, choosing flexibly from an array of strategies. a. Use sentence-level context as a clue to the meaning of a word or phrase. b. Determine the meaning of the new word formed when a known prefix is added to a known word (e.g., *happy/unhappy*, *tell/retell*). c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *addition*, *additional*). d. Use knowledge of the meaning of individual words to predict the meaning of compound words (e.g., *birdhouse*, *lighthouse*, *housefly*; *bookshelf*, *notebook*, *bookmark*). e. Use glossaries and beginning dictionaries, both print and digital, to determine or clarify the meaning of words and phrases.
5. With guidance and support from adults, explore word relationships and nuances in word meanings. a. Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent. b. Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms). c. Identify real-life connections between words and their use (e.g., note places at school that are *colorful*). d. Distinguish shades of meaning among verbs describing the same general action (e.g., *walk*, *march*, *strut*, *prance*) by acting out the meanings.	**5.** With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings. a. Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent. b. Define words by category and by one or more key attributes (e.g., a *duck* is a bird that swims; a *tiger* is a large cat with stripes). c. Identify real-life connections between words and their use (e.g., note places at home that are *cozy*). d. Distinguish shades of meaning among verbs differing in manner (e.g., *look*, *peek*, *glance*, *stare*, *glare*, *scowl*) and adjectives differing in intensity (e.g., *large*, *gigantic*) by defining or choosing them or by acting out the meanings.	**5.** Demonstrate understanding of word relationships and nuances in word meanings. a. Identify real-life connections between words and their use (e.g., describe foods that *are spicy* or *juicy*). b. Distinguish shades of meaning among closely related verbs (e.g., *toss*, *throw*, *hurl*) and closely related adjectives (e.g., *thin*, *slender*, *skinny, scrawny*).
6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.	**6.** Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., *I named my hamster Nibblet because she nibbles too much because she likes that*).	**6.** Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., *When other kids are happy that makes me happy*).

Grade 3 students:	Grade 4 students:	Grade 5 students:
Conventions		
1. Observe conventions of grammar and usage when writing or speaking. a. Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences. b. Form and use regular and irregular plural nouns. c. Use abstract nouns (e.g., *childhood*). d. Form and use regular and irregular verbs. e. Form and use the simple (e.g., *I walked*; *I walk*; *I will walk*) verb tenses. f. Ensure subject-verb and pronoun-antecedent agreement.* g. Form and use comparative and superlative adjectives and adverbs, and choose between them depending on what is to be modified. h. Use coordinating and subordinating conjunctions. i. Produce simple, compound, and complex sentences.	**1.** Observe conventions of grammar and usage when writing or speaking. a. Use relative pronouns (*who*, *whose*, *whom*, *which*, *that*) and relative adverbs (*where*, *when*, *why*). b. Form and use the progressive (e.g., *I was walking*; *I am walking*; *I will be walking*) verb aspects. c. Use modal auxiliaries (e.g., *can*, *may*, *must*) to convey various conditions. d. Order adjectives within sentences according to conventional patterns (e.g., *a small red bag* rather than *a red small bag*). e. Form and use prepositional phrases. f. Produce complete sentences, recognizing and correcting rhetorically poor fragments and run-ons.* g. Correctly use frequently confused words (e.g., *to*, *too*, *two*; *there*, *their*).*	**1.** Observe conventions of grammar and usage when writing or speaking. a. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences. b. Form and use the perfect (e.g., *I had walked*; *I have walked*; *I will have walked*) verb aspects. c. Use verb tense and aspect to convey various times, sequences, states, and conditions. d. Recognize and correct inappropriate shifts in verb tense and aspect.* e. Use correlative conjunctions.
2. Observe conventions of capitalization, punctuation, and spelling when writing. a. Capitalize important words in titles. b. Use commas in addresses. c. Use commas and quotation marks in dialogue. d. Form and use possessives. e. Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., *sitting*, *smiled*, *cries*, *happiness*). f. Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words. g. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.	**2.** Observe conventions of capitalization, punctuation, and spelling when writing. a. Use correct capitalization. b. Use commas and quotation marks to mark direct speech and quotations from a text. c. Use a comma before a coordinating conjunction in a compound sentence. d. Spell grade-appropriate words correctly, consulting references as needed.	**2.** Observe conventions of capitalization, punctuation, and spelling when writing. a. Use punctuation to separate items in a series.* b. Use a comma to separate an introductory element from the rest of the sentence. c. Use a comma to set off the words *yes* and *no* (e.g., *Yes, thank you*), to set off a tag question from the rest of the sentence (e.g., *It's true, isn't it?*), and to indicate direct address (e.g., *Is that you, Steve?*). d. Use underlining, quotation marks, or italics to indicate titles of works. e. Spell grade-appropriate words correctly, consulting references as needed.
Effective Language Use		
3. Use language to achieve particular effects when writing or speaking. a. Choose words and phrases for effect.*	**3.** Use language to enhance meaning and achieve particular effects when writing or speaking. a. Choose words and phrases to convey ideas precisely.* b. Use punctuation for effect.*	**3.** Use language to enhance meaning, convey style, and achieve particular effects when writing or speaking. a. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.

Grade 3 students:	Grade 4 students:	Grade 5 students:
Vocabulary Acquisition and Use		
4. Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on *grade 3 reading and content*, choosing flexibly from a range of strategies. a. Use sentence-level context as a clue to the meaning of a word or phrase. b. Determine the meaning of the new word formed when a known affix is added to a known word (e.g., *agreeable/disagreeable*, *comfortable/uncomfortable*, *care/careless*, *heat/preheat*). c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *company*, *companion*). d. Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases.	**4.** Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 4 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *telegraph*, *photograph*, *autograph*). c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.	**4.** Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 5 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *photograph*, *photosynthesis*). c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.
5. Demonstrate understanding of word relationships and nuances in word meanings. a. Distinguish the literal and nonliteral meanings of words and phrases in context (e.g., *take steps*). b. Identify real-life connections between words and their use (e.g., describe people who are *friendly* or *helpful*). c. Distinguish shades of meaning among related words that describe states of mind or degrees of certainty (e.g., *knew*, *believed*, *suspected*, *heard*, *wondered*).	**5.** Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Explain the meaning of simple similes and metaphors (e.g., *as pretty as a picture*) in context. b. Recognize and explain the meaning of common idioms, adages, and proverbs. c. Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).	**5.** Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figurative language, including similes and metaphors, in context. b. Recognize and explain the meaning of common idioms, adages, and proverbs. c. Use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words.
6. Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific vocabulary, including words and phrases that signal spatial and temporal relationships (e.g., *After dinner that night we went looking for them*).	**6.** Acquire and use accurately grade-appropriate general academic and domain-specific vocabulary, including words and phrases that signal precise actions, emotions, or states of being (e.g., *quizzed*, *whined*, *stammered*) and words and phrases basic to a particular topic (e.g., *wildlife*, *conservation*, and *endangered* when discussing animal preservation).	**6.** Acquire and use accurately grade-appropriate general academic and domain-specific vocabulary, including words and phrases that signal contrast, addition, and other logical relationships (e.g., *however*, *although*, *nevertheless*, *similarly*, *moreover*, *in addition*).

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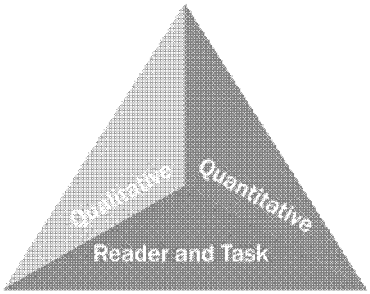
Language Progressive Skills, by Grade

The following skills, marked with an asterisk (*) in Language standards 1–3, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.

Skill	3	4	5	6	7	8	9–10	11–12
Ensure subject-verb and pronoun-antecedent agreement.								
Choose words and phrases for effect.								
Produce complete sentences, recognizing and correcting rhetorically poor fragments and run-ons.								
Correctly use frequently confused words (e.g., *to/too/two*; *there/their*).								
Choose words and phrases to convey ideas precisely.								
Use punctuation for effect.								
Recognize and correct inappropriate shifts in verb tense and aspect.								
Use punctuation to separate items in a series.								
Recognize and correct inappropriate shifts in pronoun number and person.								
Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).								
Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.								
Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.								
Vary sentence patterns for meaning, reader/listener interest, and style.								
Maintain consistency in style and tone.								
Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.								
Choose language that expresses ideas precisely and concisely, eliminating wordiness and redundancy.								
Recognize and correct inappropriate shifts in verb voice and mood.								
Use parallel structure.								

Standard 10: Range, Quality, and Complexity of Student Reading K–5

Measuring Text Complexity: Three Factors



Qualitative evaluation of the text: Levels of meaning, structure, language conventionality and clarity, and knowledge demands

Quantitative evaluation of the text: Readability measures and other scores of text complexity

Matching reader to text and task: Reader knowledge, motivation, and interests as well as the complexity generated by the tasks assigned and the questions posed

Note: More detailed information on text complexity and how it is measured is contained in Appendix A.

Range of Text Types for K–5

Students in K–5 apply the Reading standards to the following range of text types, with texts selected from a broad range of cultures and periods.

Literature			Informational Text
Stories	**Dramas**	**Poetry**	**Literary Nonfiction and Historical, Scientific, and Technical Texts**
Includes children's adventure stories, folktales, legends, fables, fantasy, realistic fiction, and myth	Includes staged dialogue and brief familiar scenes	Includes nursery rhymes and the subgenres of the narrative poem, limerick, and free verse poem	Includes biographies and autobiographies; books about history, social studies, science, and the arts; technical texts, including directions, forms, and information displayed in graphs, charts, or maps; and digital sources on a range of topics

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Texts Illustrating the Complexity, Quality, and Range of Student Reading K–5

* Read-aloud
** Read-along

	Literature: Stories, Drama, Poetry	Informational Texts: Literary Nonfiction and Historical, Scientific, and Technical Texts
K[1]	▪ *Over in the Meadow* by John Langstaff (traditional) (c1800)* ▪ *A Boy, a Dog, and a Frog* by Mercer Mayer (1967) ▪ *Pancakes for Breakfast* by Tomie DePaola (1978) ▪ *A Story A Story* by Gail E. Haley (1970)* ▪ *Kitten's First Full Moon* by Kevin Henkes (2004)*	▪ *My Five Senses* by Aliki (1962)* ▪ *Truck* by Donald Crews (1980) ▪ *I Read Signs* by Tana Hoban (1987) ▪ *What Do You Do With a Tail Like This?* by Steve Jenkins and Robin Page (2003)* ▪ *Amazing Whales!* by Sarah L. Thomson (2005)*
1[1]	▪ "Mix a Pancake" by Christina G. Rossetti (1893)** ▪ *Mr. Popper's Penguins* by Richard Atwater (1938)* ▪ *Little Bear* by Else Holmelund Minarik, illustrated by Maurice Sendak (1957)** ▪ *Frog and Toad Together* by Arnold Lobel (1971)** ▪ *Hi! Fly Guy* by Tedd Arnold (2006)	▪ *A Tree Is a Plant* by Clyde Robert Bulla, illustrated by Stacey Schuett (1960)** ▪ *My Five Senses* by Aliki (1962)** ▪ *Follow the Water from Brook to Ocean* by Arthur Dorros (1991)** ▪ *From Seed to Pumpkin* by Wendy Pfeffer, illustrated by James Graham Hale (2004)* ▪ *How People Learned to Fly* by Fran Hodgkins and True Kelley (2007)*
2–3	▪ "Who Has Seen the Wind?" by Christina G. Rossetti (1893) ▪ *Charlotte's Web* by E. B. White (1952)* ▪ *Sarah, Plain and Tall* by Patricia MacLachlan (1985) ▪ *Tops and Bottoms* by Janet Stevens (1995) ▪ *Poppleton in Winter* by Cynthia Rylant, illustrated by Mark Teague (2001)	▪ *A Medieval Feast* by Aliki (1983) ▪ *From Seed to Plant* by Gail Gibbons (1991) ▪ *The Story of Ruby Bridges* by Robert Coles (1995)* ▪ *A Drop of Water: A Book of Science and Wonder* by Walter Wick (1997) ▪ *Moonshot: The Flight of Apollo 11* by Brian Floca (2009)
4–5	▪ *Alice's Adventures in Wonderland* by Lewis Carroll (1865) ▪ "Casey at the Bat" by Ernest Lawrence Thayer (1888) ▪ *The Black Stallion* by Walter Farley (1941) ▪ "Zlateh the Goat" by Isaac Bashevis Singer (1984) ▪ *Bud, Not Buddy* by Christopher Paul Curtis (1999) ▪ *The Birchbark House* by Louise Erdrich (1999) ▪ *Where the Mountain Meets the Moon* by Grace Lin (2009)	▪ *Discovering Mars* by Melvin Berger (1992) ▪ *Hurricanes: Earth's Mightiest Storms* by Patricia Lauber (1996) ▪ *A History of US* by Joy Hakim (2005) ▪ *Horses* by Seymour Simon (2006) ▪ *Quest for the Tree Kangaroo: An Expedition to the Cloud Forest of New Guinea* by Sy Montgomery (2006)

Note: Given space limitations, the illustrative texts listed above are meant only to show individual titles that are representative of a wide range of topics and genres. (See Appendix B for excerpts of these and other texts illustrative of K–5 text complexity, quality, and range.) At a curricular or instructional level, within and across grade levels, texts need to be selected around topics or themes that generate knowledge and allow students to study those topics or themes in depth. On the next page is an example of progressions of texts building knowledge across grade levels.

[1]Children at the kindergarten and grade 1 levels should be expected to read texts independently that have been specifically written to correlate to their reading level and their word knowledge. Many of the titles listed above are meant to supplement carefully structured independent reading with books to read along with a teacher or that are read aloud to students to build knowledge and cultivate a joy in reading.

Staying on Topic Within a Grade and Across Grades: How to Build Knowledge Systematically in English Language Arts K–5

Building knowledge systematically in English language arts is like giving children various pieces of a puzzle in each grade that, over time, will form one big picture. At a curricular or instructional level, texts—within and across grade levels—need to be selected around topics or themes that systematically develop the knowledge base of students. Within a grade level, there should be an adequate number of titles on a single topic that would allow children to study that topic for a sustained period. The knowledge children have learned about particular topics in early grade levels should then be expanded and developed in subsequent grade levels to ensure an increasingly deeper understanding of these topics. Children in the upper elementary grades will generally be expected to read these texts independently and reflect on them in writing. However, children in the early grades (particularly K–2) should participate in rich, structured conversations with an adult in response to the written texts that are read aloud, *orally* comparing and contrasting as well as analyzing and synthesizing, in the manner called for by the *Standards*.

Preparation for reading complex informational texts should begin at the very earliest elementary school grades. What follows is one example that uses domain-specific nonfiction titles across grade levels to illustrate how curriculum designers and classroom teachers can infuse the English language arts block with rich, age-appropriate content knowledge and vocabulary in history/social studies, science, and the arts. Having students listen to informational read-alouds in the early grades helps lay the necessary foundation for students' reading and understanding of increasingly complex texts on their own in subsequent grades.

Exemplar Texts on a Topic Across Grades	K	1	2–3	4–5
The Human Body Students can begin learning about the human body starting in kindergarten and then review and extend their learning during each subsequent grade.	The five senses and associated body parts ▪ *My Five Senses* by Aliki (1989) ▪ *Hearing* by Maria Rius (1985) ▪ *Sight* by Maria Rius (1985) ▪ *Smell* by Maria Rius (1985) ▪ *Taste* by Maria Rius (1985) ▪ *Touch* by Maria Rius (1985) Taking care of your body: Overview (hygiene, diet, exercise, rest) ▪ *My Amazing Body: A First Look at Health & Fitness* by Pat Thomas (2001) ▪ *Get Up and Go!* by Nancy Carlson (2008) ▪ *Go Wash Up* by Doering Tourville (2008) ▪ *Sleep* by Paul Showers (1997) ▪ *Fuel the Body* by Doering Tourville (2008)	Introduction to the systems of the human body and associated body parts ▪ *Under Your Skin: Your Amazing Body* by Mick Manning (2007) ▪ *Me and My Amazing Body* by Joan Sweeney (1999) ▪ *The Human Body* by Gallimard Jeunesse (2007) ▪ *The Busy Body Book* by Lizzy Rockwell (2008) ▪ *First Encyclopedia of the Human Body* by Fiona Chandler (2004) Taking care of your body: Germs, diseases, and preventing illness ▪ *Germs Make Me Sick* by Marilyn Berger (1995) ▪ *Tiny Life on Your Body* by Christine Taylor-Butler (2005) ▪ *Germ Stories* by Arthur Kornberg (2007) ▪ *All About Scabs* by GenichiroYagu (1998)	Digestive and excretory systems ▪ *What Happens to a Hamburger* by Paul Showers (1985) ▪ *The Digestive System* by Christine Taylor-Butler (2008) ▪ *The Digestive System* by Rebecca L. Johnson (2006) ▪ *The Digestive System* by Kristin Petrie (2007) Taking care of your body: healthy eating and nutrition ▪ *Good Enough to Eat* by Lizzy Rockwell (1999) ▪ *Showdown at the Food Pyramid* by Rex Barron (2004) Muscular, skeletal, and nervous systems ▪ *The Mighty Muscular and Skeletal Systems* Crabtree Publishing (2009) ▪ *Muscles* by Seymour Simon (1998) ▪ *Bones* by Seymour Simon (1998) ▪ *The Astounding Nervous System* Crabtree Publishing (2009) ▪ *The Nervous System* by Joelle Riley (2004)	Circulatory system ▪ *The Heart* by Seymour Simon (2006) ▪ *The Heart and Circulation* by Carol Ballard (2005) ▪ *The Circulatory System* by Kristin Petrie (2007) ▪ *The Amazing Circulatory System* by John Burstein (2009) Respiratory system ▪ *The Lungs* by Seymour Simon (2007) ▪ *The Respiratory System* by Susan Glass (2004) ▪ *The Respiratory System* by Kristin Petrie (2007) ▪ *The Remarkable Respiratory System* by John Burstein (2009) Endocrine system ▪ *The Endocrine System* by Rebecca Olien (2006) ▪ *The Exciting Endocrine System* by John Burstein (2009)

Standards for English Language Arts

6–12

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College and Career Readiness Anchor Standards for Reading

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

Craft and Structure

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented graphically, visually, orally, and multimodally as well as in words within and across print and digital sources. *
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

*Please see "Research to Build Knowledge" in Writing and "Comprehension and Collaboration" in Speaking and Listening for additional standards relevant to gathering, assessing, and applying information from print and digital sources.

Note on range and content of student reading

To become college and career ready, students must grapple with works of exceptional craft and thought whose range extends across genres, cultures, and centuries. Such works offer profound insights into the human condition and serve as models for students' own thinking and writing. Along with high-quality contemporary works, these texts should be chosen from among seminal U.S. documents, the classics of American literature, and the timeless dramas of Shakespeare. Through wide and deep reading of literature and literary nonfiction of steadily increasing sophistication, students gain a reservoir of literary and cultural knowledge, references, and images; the ability to evaluate intricate arguments; and the capacity to surmount the challenges posed by complex texts.

Reading Standards for Literature 6–12 [RL]

The following standards offer a focus for instruction each year and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.

Grade 6 students:	Grade 7 students:	Grade 8 students:
Key Ideas and Details		
1. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	**1.** Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	**1.** Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine a theme or central idea of a text and analyze its development over the course of the text; summarize the text.	**2.** Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; summarize the text.	**2.** Determine a theme or central idea of a text and analyze its development over the course of the text, including how it is conveyed through particular details; provide an accurate summary of the text distinct from personal opinions or judgments.
3. Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution.	**3.** Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).	**3.** Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including figures of speech and the connotations (associations) of particular words and phrases; analyze the impact of a specific word choice on meaning and tone.	**4.** Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of rhymes and other repetitions of sounds (e.g., alliteration) on a specific verse or stanza of a poem or section of a story or drama.	4. Determine the meaning of words and phrases as they are used in a text, including analogies or allusions to other texts; analyze the impact of specific word choices on meaning and tone.
5. Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.	**5.** Analyze how a drama's or poem's form or structure (e.g. sonnet, soliloquy) contributes to its meaning.	**5.** Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and style.
6. Explain how an author establishes and develops the point of view of the narrator or speaker in a text.	**6.** Analyze how an author establishes and contrasts the points of view of different characters or narrators in a text.	**6.** Explain how differences in the point of view of characters and the audience or reader (e.g., created through the use of dramatic irony) creates such effects as suspense or humor.
Integration of Knowledge and Ideas		
7. Compare and contrast the experience of reading a story, poem, or dram to listening to or viewing an audio, video, or live version of the text, including contrasting what they "see" and "hear" when reading the text to what they perceive when they listen or watch.	**7.** Compare and contrast a story, poem, or drama to its audio, filmed, staged, or multimedia version, analyzing the effects of techniques unique to each medium (e.g., lighting, sound, color, camera focus and angles).	**7.** Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script, evaluating the choices made by the director or actors.
8. (Not applicable to literature)	**8.** (Not applicable to literature)	**8.** (Not applicable to literature)

Grade 6 students:	Grade 7 students:	Grade 8 students:
Integration of Knowledge and Ideas		
9. Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics.	**9.** Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.	**9.** Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new.
Range of Reading and Level of Text Complexity		
10. By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.	**10.** By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as necessary at the high end of the range.	**10.** By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band independently and proficiently.

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Grades 9–10 students:	Grades 11–12 students:
Key Ideas and Details	
1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	**1.** Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
2. Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.	**2.** Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.
3. Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.	**3.** Evaluate various explanations for characters' actions or for events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.
Craft and Structure	
4. Determine the meaning of words and phrases as they are used in the text and analyze the cumulative impact of several word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).	**4.** Determine the meaning of words and phrases as they are used in the text and analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful. (Include Shakespeare as well as other authors.)
5. Analyze how an author's choices concerning how to structure a text, order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery, tension, or surprise.	**5.** Analyze how an author's choices concerning how to structure specific parts of a text (e.g., the choice at what point to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning as well as its aesthetic impact.
6. Analyze a case in which grasping point of view requires distinguishing what is directly stated from what is implied (e.g., through the use of satire, sarcasm, irony, or understatement).	**6.** Analyze differences and similarities in points of view or cultural experience as reflected in various works from different countries, drawing on a wide reading of world literature.
Integration of Knowledge and Ideas	
7. Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment (e.g., Auden's "Musée des Beaux Arts" and Breughel's *Landscape with the Fall of Icarus*).	**7.** Analyze multiple interpretations of a story or drama (e.g., recorded or live production of a play or novel), evaluating how each version interprets the source text. (Include at least one play by Shakespeare as well as one play by an American dramatist.)
8. (Not applicable to literature)	**8.** (Not applicable to literature)
9. Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, drawing on how two or more texts from the same period treat similar themes or topics.	**9.** Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare draws on Ovid or the Bible or how a later author draws on a play by Shakespeare) in order to evaluate how the texts treat similar themes or topics.
Range of Reading and Level of Text Complexity	
10. By the end of grade 9, read and comprehend literature, including stories, dramas, and poems, in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literature, including stories, dramas, and poems, in the grades 9–10 text complexity band independently and proficiently.	**10.** By the end of grade 11, read and comprehend literature, including stories, dramas, and poems, in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literature, including stories, dramas, and poems, in the grades 11–CCR text complexity band independently and proficiently.

Grade 6 students:	Grade 7 students:	Grade 8 students:
Key Ideas and Details		
1. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	**1.** Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	**1.** Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine a central idea of a text and analyze its development over the course of the text; summarize the text.	**2.** Determine two or more central ideas in a text and analyze their development over the course of the text and their relationship to one another; summarize the text.	**2.** Determine a central idea of a text and analyze its development over the course of the text, including how it is conveyed through particular details; provide an accurate summary of the text distinct from personal opinions or judgments.
3. Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes).	**3.** Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).	**3.** Analyze how a text makes connections among and distinctions between key individuals, ideas, or events (e.g., through comparisons, analogies, or categories).
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone.	**4.** Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone.	**4.** Determine the meaning of words and phrases as they are used in a text, including analogies or allusions to other texts; analyze the impact of specific word choices on meaning and tone.
5. Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.	**5.** Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to the development of the ideas.	**5.** Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept.
6. Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.	**6.** Determine an author's point of view or purpose in a text and analyze how the author distinguishes his or her point of view from that of others.	**6.** Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.
Integration of Knowledge and Ideas		
7. Integrate information presented in different formats (e.g., print or digital text, video, multimedia) to develop a coherent understanding of a topic or issue.	**7.** Compare and contrast the experience of reading a text to experiencing an audio, video, or multimedia version of it, analyzing the text's portrayal in each medium (e.g., how the delivery of a speech affects the impact of the words).	**7.** Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.
8. Delineate and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not.	**8.** Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is sufficient to support the claims.	**8.** Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient and identifying when irrelevant evidence is introduced.
9. Compare and contrast one author's presentation of events with that of another (e.g., a memoir written by and a biography on the same person).	**9.** Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts.	**9.** Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.

Grade 6 students:	Grade 7 students:	Grade 8 students:
Range of Reading and Level of Text Complexity		
10. By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.	**10.** By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.	**10.** By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band independently and proficiently.

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Grades 9–10 students:	Grades 11–12 students:
Key Ideas and Details	
1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	**1.** Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
2. Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.	**2.** Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.
3. Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.	**3.** Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.
Craft and Structure	
4. Determine the meaning of words and phrases as they are used in a text and analyze the cumulative impact of several word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).	**4.** Determine the meaning of words and phrases as they are used in a text and analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).
5. Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).	**5.** Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.
6. Analyze documents of historical and literary significance, including seminal U.S. documents (e.g., the Declaration of Independence, the Preamble to the Constitution, the Bill of Rights), for their premises and purposes.	**6.** Analyze how various authors express different points of view on similar events or issues, assessing the authors' assumptions, use of evidence, and reasoning, including analyzing seminal U.S. documents (e.g., *The Federalist*, landmark U.S. Supreme Court majority opinions and dissents).
Integration of Knowledge and Ideas	
7. Evaluate the accounts of a subject in different mediums (e.g., a person's life story told in print or digital text, film, or multimedia), analyzing each version for which details are emphasized and how the account unfolds.	**7.** Integrate and evaluate multiple sources of information presented in different formats (e.g., print or digital text, video, multimedia) in order to address a question or solve a problem, resolving conflicting information when possible.
8. Delineate and evaluate the argument and claims in a text, assessing the relevance and sufficiency of the evidence and the validity of the reasoning and identifying false statements and fallacious reasoning.	**8.** Delineate and evaluate the argument and claims in a text, assessing the relevance and sufficiency of the evidence and the validity of the reasoning, identifying and evaluating stated and unstated premises and assumptions.
9. Analyze a case in which authors disagree with or otherwise respond to one another's ideas or accounts of events, evaluating the strength of each author's evidence, reasoning, and interpretation.	**9.** Synthesize information, explanations, and arguments from a range of sources to provide a coherent account of events or ideas, resolving conflicting information when possible.
Range of Reading and Level of Text Complexity	
10. By the end of grade 9, read and comprehend literary nonfiction in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literary nonfiction in the grades 9–10 text complexity band independently and proficiently.	**10.** By the end of grade 11, read and comprehend literary nonfiction in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literary nonfiction in the grades 11–CCR text complexity band independently and proficiently.

College and Career Readiness Anchor Standards for Writing

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Text Types and Purposes[1]

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.[2]
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

[1]These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.

[2]See standards 1–3 in Language, pages 53–57, for specific editing expectations.

Note on range and content of student writing

For students, writing is a key means of asserting and defending claims, showing what they know about a subject, and conveying what they have experienced, imagined, thought, and felt. To be college- and career-ready writers, students must take task, purpose, and audience into careful consideration, choosing words, information, structures, and formats deliberately. They need to know how to combine elements of different kinds of writing—for example, to use narrative strategies within argument and explanation within narrative—to produce complex and nuanced writing. They need to be able to use technology strategically when creating, refining, and collaborating on writing. They have to become adept at gathering information, evaluating sources, and citing material accurately, reporting findings from their research and analysis of sources in a clear and cogent manner. They must have the flexibility, concentration, and fluency to produce high-quality first-draft text under a tight deadline as well as the capacity to revisit and make improvements to a piece of writing over multiple drafts when circumstances encourage or require it.

The following standards for grades 6–12 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades. The expected growth in student writing ability is reflected both in the standards themselves and in the collection of annotated student writing samples in Appendix C.

Grade 6 students:	Grade 7 students:	Grade 8 students:
Text Types and Purposes		
1. Write arguments to support claims with clear reasons and relevant evidence. a. Introduce claim(s) and organize the reasons and evidence clearly. b. Support claim(s) with clear reasons and relevant evidence, demonstrating an understanding of the topic or text. c. Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from the argument presented.	**1.** Write arguments to support claims with clear reasons and relevant evidence. a. Introduce claim(s), acknowledge alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant evidence, demonstrating an understanding of the topic or text. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.	**1.** Write arguments to support claims with clear reasons and relevant evidence. a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant evidence, using credible sources and demonstrating an understanding of the topic or text. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented.
2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate transitions to clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from the information or explanation presented.	**2.** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.	**2.** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

Grade 6 students:	Grade 7 students:	Grade 8 students:
Text Types and Purposes (continued)		
3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. a. Engage and orient the reader by establishing a context and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters. c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another. d. Use precise words and phrases, relevant descriptive details, and sensory language to convey experiences and events. e. Provide a conclusion that follows from the narrated experiences or events.	**3.** Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters. c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another. d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events. e. Provide a conclusion that follows from and reflects on the narrated experiences or events.	**3.** Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. b. Use narrative techniques, such as dialogue, pacing, description, and reflection, to develop experiences, events, and/or characters. c. Use a variety of transition words, phrases, and clauses to convey sequence, signal shifts from one time frame or setting to another, and show the relationships among experiences and events. d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events. e. Provide a conclusion that follows from and reflects on the narrated experiences or events.
Production and Distribution of Writing		
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	**4.** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	**4.** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	**5.** With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.	**5.** With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
6. Use technology, including the Internet, to produce and publish a minimum of three pages of writing as well as to interact and collaborate with others.	**6.** Use technology, including the Internet, to produce and publish a minimum of four pages of writing as well as to interact and collaborate with others.	**6.** Use technology, including the Internet, to produce and publish a minimum of five pages of writing as well as to interact and collaborate with others.

Grade 6 students:	Grade 7 students:	Grade 8 students:
Research to Build and Present Knowledge		
7. Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.	**7.** Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.	**7.** Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
8. Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.	**8.** Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.	**8.** Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply *grade 6 Reading standards* to literature (e.g., "Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics."). b. Apply *grade 6 Reading standards* to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not").	**9.** Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply *grade 7 Reading standards* to literature (e.g., "Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history]). b. Apply *grade 7 Reading standards* to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is sufficient to support the claims").	**9.** Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply *grade 8 Reading standards* to literature (e.g., "Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new"). b. Apply *grade 8 Reading standards* to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient and identifying when irrelevant evidence is introduced").
Range of Writing		
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	**10.** Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	**10.** Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Grades 9–10 students:	Grades 11–12 students:
Text Types and Purposes	
1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns. c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from and supports the argument presented.	**1.** Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from and supports the argument presented.
2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. a. Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).	**2.** Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. a. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

Grades 9–10 students:	Grades 11–12 students:
Text Types and Purposes (continued)	
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences. a. Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events. b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters. c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole. d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters. e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.	**3.** Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences. a. Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events. b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters. c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth, or resolution). d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters. e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.
Production and Distribution of Writing	
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	**4.** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	**5.** Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.	**6.** Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
Research to Build and Present Knowledge	
7. Conduct short as well as more sustained research projects to answer a question (including a self-generate question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.	**7.** Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.	**8.** Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

Grades 9–10 students:	Grades 11–12 students:
Research to Build and Present Knowledge (continued)	
9. Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply *grades 9–10 Reading standards* to literature (e.g., "Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, drawing on how two or more texts from the same period treat similar themes or topics"). b. Apply *grades 9–10 Reading standards* to literary nonfiction (e.g., "Delineate and evaluate the argument and claims in a text, assessing the relevance and sufficiency of the evidence and the validity of the reasoning and identifying false statements and fallacious reasoning").	**9.** Draw evidence form literary or informational texts to support analysis, reflection, and research. a. Apply *grades 11–12 Reading standards* to literature (e.g., "Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare draws on Ovid or the Bible or how a later author draws on a play by Shakespeare) in order to evaluate how the texts treat similar themes or topics"). b. Apply *grades 11–12 Reading standards* to literary nonfiction (e.g., "Delineate and evaluate the argument and claims in a text, assessing the relevance and sufficiency of the evidence and the validity of the reasoning, identifying and evaluating stated and unstated premises and assumptions").
Range of Writing	
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.	**10.** Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

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College and Career Readiness Anchor Standards for Speaking and Listening

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Comprehension and Collaboration

1. Prepare for and participate effectively in a range of conversations and collaborations, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate content from multiple graphical, visual, oral, or multimodal sources.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas

4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

Note on range and content of student speaking and listening

To become college and career ready, students must have ample opportunities to take part in a variety of rich, structured conversations—as part of a whole class, in small groups, and with a partner—built around important content in various domains. They must be able to contribute appropriately to these conversations, to make comparisons and contrasts, and to analyze and synthesize a multitude of ideas in accordance with the standards of evidence appropriate to a particular discipline. Whatever their intended major or profession, high school graduates will depend heavily on their ability to listen attentively to others so that they are able to build on others' meritorious ideas while expressing their own clearly and persuasively.

New technologies have broadened and expanded the role that speaking and listening play in acquiring and sharing knowledge and have tightened their link to other forms of communication. The Internet has accelerated the speed at which connections between speaking, listening, reading, and writing can be made, requiring that students be ready to use these modalities nearly simultaneously. Technology itself is changing quickly, creating a new urgency for students to be adaptable in response to change.

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The following standards for grades 6–12 offer a focus for instruction in each year to help ensure that students gain adequate mastery of a range of skills and applications. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.

Grade 6 students:	Grade 7 students:	Grade 8 students:
Comprehension and Collaboration		
1. Engage effectively in a range of collaborative discussions (one-on-one and in groups) on *grade 6 topics, texts, and issues*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. With guidance and support from adults, work with peers to set rules for collegial discussions, clear goals and deadlines, and individual roles as needed. c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.	**1.** Engage effectively in a range of collaborative discussions (one-on-one and in groups) on *grade 7 topics, texts, and issues*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Work with peers to set rules for collegial discussions, clear goals and deadlines, and individual roles as needed. c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed. d. Acknowledge new information expressed by others and, when warranted, modify their own views and understanding.	**1.** Engage effectively in a range of collaborative discussions (one-on-one and in groups) on *grade 8 topics, texts, and issues*, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. b. Work with peers to set rules for collegial discussions, clear goals and deadlines, and individual roles as needed. c. Pose questions that connect the ideas of several speakers and elicit elaboration, and respond to others' questions and comments with relevant evidence, observations, and ideas. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views and understanding in light of the evidence presented.
2. Interpret information presented in graphical, oral, visual or multimodal formats and explain how it contributes to a topic, text, or issue under study.	**2.** Analyze the main ideas and supporting details presented in graphical, oral, visual, or multimodal formats and explain how the ideas clarify a topic, text, or issue under study.	**2.** Determine the purpose of information in graphical, oral, visual, or multimodal formats and evaluate the motives (e.g., social, commercial, political) behind its presentation.
3. Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.	**3.** Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance of the evidence.	**3.** Delineate a speaker's argument and specific claims, evaluating the validity of the reasoning and sufficiency of the evidence.
Presentation of Knowledge and Ideas		
4. Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.	**4.** Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.	**4.** Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
5. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.	**5.** Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.	**5.** Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.
6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See standards 1–3 in Language, pages 53–57, for specific expectations.)	**6.** Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See standards 1–3 in Language, pages 53–57, for specific expectations.)	**6.** Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See standards 1–3 in Language, pages 53–57, for specific expectations.)

Grades 9–10 students:	Grades 11–12 students:
Comprehension and Collaboration	
1. Initiate and participate effectively in a range of collaborative discussions (one-on-one and in groups) on *grades 9–10 topics, texts, and issues*, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.	**1.** Initiate and participate effectively in a range of collaborative discussions (one-on-one and in groups) on *grades 11–12 topics, texts, and issues*, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed. c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
2. Synthesize information from multiple graphical, visual, or multimodal sources with other information presented orally, noting any discrepancies among the data.	**2.** Integrate information from multiple graphical, oral, visual, or multimodal sources in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and resolving conflicting information when possible.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.	**3.** Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
Presentation of Knowledge and Ideas	
4. Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.	**4.** Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range or formal and informal tasks.
5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.	**5.** Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See standards 1–3 in Language, pages 53–57, for specific expectations.)	**6.** Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate. (See standards 1–3 in Language, pages 53–57, for specific expectations.)

College and Career Readiness Anchor Standards for Language

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Conventions

1. Demonstrate command of the conventions of standard English grammar and usage.
2. Demonstrate command of the conventions of capitalization, punctuation, and spelling.

Effective Language Use

3. Use language to enhance meaning, convey style, and achieve particular effects when writing and speaking.

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
5. Demonstrate understanding of word relationships and nuances in word meanings.
6. Acquire and use accurately a range of general academic and domain-specific vocabulary sufficient for reading, writing, speaking, and listening at the college and career readiness level.

Note on range and content of student language use

To be college and career ready in language, students must have firm control over the conventions of grammar, usage, and mechanics. At the same time, they must come to appreciate that language is as at least as much a matter of craft as of rules and be able to use words, syntax, and punctuation to achieve particular rhetorical effects. They must also have extensive vocabularies, built through reading and study, enabling them to comprehend complex texts and engage in purposeful writing about and conversations around content. They need to become skilled in determining or clarifying the meaning of words and phrases they encounter, choosing flexibly from an array of strategies to aid them. They must learn to see an individual word as part of a network of other words—words, for example, that have similar denotations but different connotations. The inclusion of Language standards in their own strand should not be taken as an indication that skills related to conventions, effective language use, and vocabulary are unimportant to reading, writing, speaking, and listening; indeed, they are inseparable from such contexts.

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Language Standards 6–12 [L]

The following standards for grades 6–12 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades. Beginning in grade 3, skills and understandings that are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking are marked with an asterisk (*). See the table on page 57 for a complete listing and Appendix A for an example of how these skills develop in sophistication.

Grade 6 students:	Grade 7 students:	Grade 8 students:
Conventions		
1. Observe conventions of grammar and usage when writing or speaking. a. Ensure that pronouns are in the proper case (subjective, objective, possessive). b. Use intensive pronouns (e.g., *myself*, *ourselves*). c. Recognize and correct inappropriate shifts in pronoun number and person.* d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).* e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.*	**1.** Observe conventions of grammar and usage when writing or speaking. a. Explain the function of phrases and clauses in general and their function in specific sentences. b. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas. c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.*	**1.** Observe conventions of grammar and usage when writing or speaking. a. Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences. b. Form and use verbs in the active and passive voice. c. Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood. d. Recognize and correct inappropriate shifts in verb voice and mood.*
2. Observe conventions of capitalization, punctuation, and spelling when writing. a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.* b. Spell correctly.	**2.** Observe conventions of capitalization, punctuation, and spelling when writing. a. Use a comma to separate coordinate adjectives (e.g., *It was a fascinating, enjoyable movie* but not *He wore an old[,] green shirt*). b. Spell correctly.	**2.** Observe conventions of capitalization, punctuation, and spelling when writing. a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break. b. Use an ellipsis to indicate an omission. c. Spell correctly.
Effective Language Use		
3. Use language to enhance meaning, convey style, and achieve particular effects when writing or speaking. a. Vary sentence patterns for meaning, reader/listener interest, and style.* b. Maintain consistency in style and tone.*	**3.** Use language to enhance meaning, convey style, and achieve particular effects when writing or speaking. a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.*	**3.** Use language to enhance meaning, convey style, and achieve particular effects when writing or speaking. a. Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).

Grade 6 students:	Grade 7 students:	Grade 8 students:
Vocabulary Acquisition and Use		
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 6 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *audience*, *auditory*, *audible*). c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).	**4.** Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 7 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *belligerent*, *bellicose*, *rebel*). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).	**4.** Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on *grade 8 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *precede*, *recede*, *secede*). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figures of speech (e.g., personification) in context. b. Use the relationship between particular words (e.g., cause/effect, part/whole, item/category) to better understand each of the words. c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *stingy*, *scrimping*, *economical*, *unwasteful*, *thrifty*).	**5.** Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figures of speech (e.g., literary, biblical, and mythological allusions) in context. b. Use the relationship between particular words (e.g., synonym/antonym, analogy) to better understand each of the words. c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *refined*, *respectful*, *polite*, *diplomatic*, *condescending*).	**5.** Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figures of speech (e.g. verbal irony, puns) in context. b. Use the relationship between particular words to better understand each of the words. c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *bullheaded*, *willful*, *firm*, *persistent*, *resolute*).
6. Acquire and use accurately grade-appropriate general academic and domain-specific vocabulary.	**6.** Acquire and use accurately grade-appropriate general academic and domain-specific vocabulary.	**6.** Acquire and use accurately grade-appropriate general academic and domain-specific vocabulary.

Grades 9–10 students:	Grades 11–12 students:
Conventions	
1. Observe conventions of grammar and usage when writing or speaking. a. Use parallel structure.* b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to add variety and interest to writing or presentations.	**1.** Observe conventions of grammar and usage when writing or speaking. a. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested. b. Resolve issues of complex or contested usage, consulting references (e.g., *Merriam-Webster's Dictionary of English Usage*, *Garner's Modern American English*) as needed.
2. Observe conventions of capitalization, punctuation, and spelling when writing. a. Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses. b. Use a colon to introduce a list or quotation. c. Spell correctly.	**2.** Observe conventions of capitalization, punctuation, and spelling when writing. a. Observe hyphenation conventions. b. Spell correctly.
Effective Language Use	
3. Use language to enhance meaning, convey style, and achieve particular effects when writing or speaking. a. Write and edit work so that it conforms to the guidelines in a style manual (e.g., *MLA Handbook*, Turabian's *Manual for Writers*) appropriate for the discipline and writing type.	**3.** Use language to enhance meaning, convey style, and achieve particular effects when writing or speaking. a. Vary syntax for effect, consulting references (e.g., Tufte's *Artful Sentences*) for guidance as needed; apply an understanding of syntax to the study of complex texts when reading.
Vocabulary Acquisition and Use	
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 9–10 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *analyze*, *analysis*, *analytical*; *advocate*, *advocacy*). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).	**4.** Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 11–12 reading and content*, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *conceive, conception, conceivable*). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figures of speech (e.g., satire, sarcasm) in context and analyze their role in the text. b. Analyze nuances in the meaning of words with similar denotations.	**5.** Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figures of speech (e.g., hyperbole, paradox) in context and analyze their role in the text. b. Analyze nuances in the meaning of words with similar denotations.
6. Acquire and use accurately general academic and domain-specific vocabulary sufficient for reading, writing, speaking, and listening at the college and career readiness level.	**6.** Acquire and use accurately general academic and domain-specific vocabulary sufficient for reading, writing, speaking, and listening at the college and career readiness level.

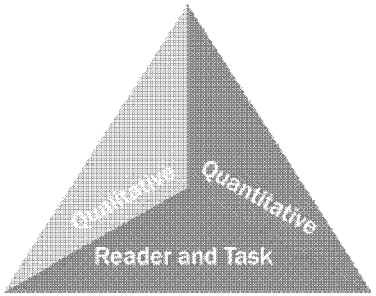
Language Progressive Skills, by Grade

The following skills, marked with an asterisk (*) in Language standards 1–3, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.

Skill	3	4	5	6	7	8	9–10	11–12
Ensure subject-verb and pronoun-antecedent agreement.	■	■	■	■	■	■	■	■
Choose words and phrases for effect.	■	■	■	■	■	■	■	■
Produce complete sentences, recognizing and correcting rhetorically poor fragments and run-ons.		■	■	■	■	■	■	■
Correctly use frequently confused words (e.g., *to/too/two*; *there/their*).		■	■	■	■	■	■	■
Choose words and phrases to convey ideas precisely.		■	■	■				
Use punctuation for effect.		■	■	■	■	■	■	■
Recognize and correct inappropriate shifts in verb tense and aspect.			■	■	■	■	■	■
Use punctuation to separate items in a series.			■	■	■	■		
Recognize and correct inappropriate shifts in pronoun number and person.				■	■	■	■	■
Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).				■	■	■	■	■
Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.				■	■	■	■	■
Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.				■	■	■	■	■
Vary sentence patterns for meaning, reader/listener interest, and style.				■	■	■	■	
Maintain consistency in style and tone.				■	■	■	■	■
Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.					■	■	■	■
Choose language that expresses ideas precisely and concisely, eliminating wordiness and redundancy.						■	■	■
Recognize and correct inappropriate shifts in verb voice and mood.						■	■	■
Use parallel structure.							■	■

Standard 10: Range, Quality, and Complexity of Student Reading 6–12

Measuring Text Complexity: Three Factors



Qualitative evaluation of the text: Levels of meaning, structure, language conventionality and clarity, and knowledge demands

Quantitative evaluation of the text: Readability measures and other scores of text complexity

Matching reader to text and task: Reader knowledge, motivation, and interests as well as the complexity generated by the tasks assigned and the questions posed

Note: More detailed information on text complexity and how it is measured is contained in Appendix A.

Range of Text Types for 6–12

Students in grades 6–12 apply the Reading standards to the following range of text types, with texts selected from a broad range of cultures and periods.

Literature			Informational Text
Stories	**Drama**	**Poetry**	**Literary Nonfiction**
Includes the subgenres of adventure stories, historical fiction, mysteries, myths, science fiction, realistic fiction, allegories, parodies, satire, and graphic novels	Includes one-act and multiact plays, both in written form and on film	Includes the subgenres of narrative poems, lyrical poems, free verse poems, sonnets, odes, ballads, and epics	Includes the subgenres of exposition, argument, and functional text in the form of personal essays, speeches, opinion pieces, essays about art or literature, biographies, memoirs, journalism, and historical, scientific, or economic accounts (including digital sources) written for a broad audience

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Texts Illustrating the Complexity, Quality, and Range of Student Reading 6–12

	Literature: Stories, Dramas, Poetry	Informational Texts: Literary Nonfiction
6–8	▪ *Little Women* by Louisa May Alcott (1869) ▪ *The Adventures of Tom Sawyer* by Mark Twain (1876) ▪ "The Road Not Taken" by Robert Frost (1915) ▪ *The Dark Is Rising* by Susan Cooper (1973) ▪ *Dragonwings* by Laurence Yep (1975) ▪ *Roll of Thunder, Hear My Cry* by Mildred Taylor (1976)	▪ "Letter on Thomas Jefferson" by John Adams (1776) ▪ *Narrative of the Life of Frederick Douglass, an American Slave* by Frederick Douglass (1845) ▪ *Harriet Tubman: Conductor on the Underground Railroad* by Ann Petry (1955) ▪ *Travels with Charley: In Search of America* by John Steinbeck (1962) ▪ *The Great Fire* by Jim Murphy (1995) ▪ *This Land Was Made for You and Me: The Life and Songs of Woody Guthrie* by Elizabeth Partridge (2002)
9–10	▪ *The Tragedy of Romeo and Juliet* by William Shakespeare (1592) ▪ "Ozymandias" by Percy Bysshe Shelley (1817) ▪ "The Raven" by Edgar Allen Poe (1845) ▪ "The Gift of the Magi" by O. Henry (1906) ▪ *The Grapes of Wrath* by John Steinbeck (1939) ▪ *Fahrenheit 451* by Ray Bradbury (1953) ▪ *The Killer Angels* by Michael Shaara (1975)	▪ "Speech to the Second Virginia Convention" by Patrick Henry (1775) ▪ The Declaration of Independence by Thomas Jefferson (1776) ▪ "Second Inaugural Address" by Abraham Lincoln (1865) ▪ "State of the Union Address" by Franklin Delano Roosevelt (1941) ▪ *Cod: A Biography of the Fish That Changed the World* by Mark Kurlansky (1997) ▪ *The Race to Save Lord God Bird* by Phillip Hoose (2004)
11–CCR	▪ "Ode on a Grecian Urn" by John Keats (1820) ▪ *Jane Eyre* by Charlotte Brontë (1848) ▪ "Because I Could Not Stop for Death" by Emily Dickinson (1890) ▪ *The Great Gatsby* by F. Scott Fitzgerald (1925) ▪ *Their Eyes Were Watching God* by Zora Neale Hurston (1937) ▪ *A Raisin in the Sun* by Lorraine Hansberry (1959) ▪ *The Namesake* by Jhumpa Lahiri (2003)	▪ *The Crisis* by Thomas Paine (1776) ▪ *Walden* by Henry David Thoreau (1854) ▪ "Society and Solitude" by Ralph Waldo Emerson (1857) ▪ "Gettysburg Address" by Abraham Lincoln (1863) ▪ "Letter from Birmingham Jail" by Martin Luther King, Jr. (1964) ▪ *Google Hacks: Tips & Tools for Smarter Searching* by Tara Calishain and Rael Dornfest (2004) ▪ *America's Constitution: A Biography* by Akhil Reed Amar (2005)

Note: Given space limitations, the illustrative texts listed above are meant only to show individual titles that are representative of a range of topics and genres. (See Appendix B for excerpts of these and other texts illustrative of grades 6–12 text complexity, quality, and range.) At a curricular or instructional level, within and across grade levels, texts need to be selected around topics or themes that generate knowledge and allow students to study those topics or themes in depth.

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Standards for Literacy in History/Social Studies, Science, and Technical Subjects

6–12

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College and Career Readiness Anchor Standards for Reading

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

Craft and Structure

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented graphically, visually, orally, and multimodally as well as in words within and across print and digital sources.*
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

*Please see "Research to Build and Present Knowledge" in Writing for additional standards relevant to gathering, assessing, and applying information from print and digital sources.

Note on range and content of student reading

Reading is critical to building knowledge in history/social studies as well as in science and technical subjects. College- and career-ready reading in these fields requires an appreciation of the norms and conventions of each discipline, such as the kinds of evidence used in history and science; an understanding of domain-specific words and phrases; an attention to precise details; and the capacity to evaluate intricate arguments, synthesize complex information, and follow detailed descriptions of events and concepts. In history/social studies, for example, students need to be able to analyze, evaluate, and differentiate primary and secondary sources. When reading scientific and technical texts, students need to be able to gain knowledge from challenging texts that often make extensive use of elaborate diagrams and data to convey information and illustrate concepts. Students must be able to read complex informational texts in these fields with *independence and confidence because the vast majority of reading in college and workforce training programs will be sophisticated nonfiction. It is important to note that these Reading standards are meant to complement the specific content demands of the disciplines, not replace them.*

Reading Standards for Literacy in History/Social Studies 6–12 [RH]

The standards below begin at grade 6; standards for K–5 reading in history/social studies, science, and technical subjects are integrated into the K–5 Reading standards.

Grades 6–8 students:	Grades 9–10 students:	Grades 11–12 students:
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of primary and secondary sources.	**1.** Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.	**1.** Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.
2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.	**2.** Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.	**2.** Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.
3. Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).	**3.** Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.	**3.** Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.	**4.** Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.	**4.** Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).
5. Describe how a text presents information (e.g., sequentially, comparatively, causally).	**5.** Analyze how a text uses structure to emphasize key points or advance a point of view.	**5.** Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.
6. Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).	**6.** Compare the point of view of two or more authors by comparing how they treat the same or similar history/social science topics, including which details they include and emphasize in their respective accounts.	**6.** Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.
Integration of Knowledge and Ideas		
7. Integrate visual information (e.g., pictures, videos, maps) with other information within or across print or digital texts.	**7.** Integrate quantitative or technical information (e.g., charts, research data) with other information within or across print or digital texts.	**7.** Integrate and evaluate multiple sources of information presented in different formats (e.g., print or digital text, video, multimedia) in order to address a question, resolving conflicting information when possible.
8. Distinguish among fact, opinion, and reasoned judgment in a text.	**8.** Assess the extent to which the evidence in a text supports the author's claims.	**8.** Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other sources of information.
9. Analyze the relationship between a primary and secondary source on the same topic.	**9.** Compare and contrast treatments of the same topic in several primary and secondary sources.	**9.** Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.
Range of Reading and Level of Text Complexity		
10. By the end of grade 8, read and comprehend history/social studies texts in the grades 6–8 text complexity band independently and proficiently.	**10.** By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.	**10.** By the end of grade 12, read and comprehend history/social studies texts in the grades 11–12 text complexity band independently and proficiently.

Grades 6–8 students:	Grades 9–10 students:	Grades 11–12 students:
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of science and technical texts.	**1.** Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.	**1.** Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.	**2.** Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.	**2.** Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.	**3.** Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks attending to special cases or exceptions defined in the text.	**3.** Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
Craft and Structure		
4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 6–8 texts and topics*.	**4.** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 9–10 texts and topics*.	**4.** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 11–12 texts and topics*.
5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.	**5.** Analyze the structure of the relationships among concepts in a text, including relationships among key terms pertaining to important ideas and processes (e.g., *force*, *friction*, *reaction force*, *energy*).	**5.** Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.	**6.** Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.	**6.** Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved or uncertain.
Integration of Knowledge and Ideas		
7. Integrate quantitative or technical information provided by the words in a text with a version of that information expressed graphically (e.g., in a flowchart, diagram, model, graph, or table).	**7.** Demonstrate understanding of quantitative or technical information by translating information provided by the words in a text into graphical form (e.g., a table or chart) or translating information expressed graphically or mathematically (e.g., in an equation) into words.	**7.** Integrate and evaluate multiple sources of information presented in different formats (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem, resolving conflicting information when possible.
8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.	**8.** Assess the extent to which the evidence in a text supports a claim or a recommendation for solving a scientific or technical problem.	**8.** Evaluate the hypotheses, data, and conclusions in a science or technical text, verifying data and corroborating or challenging conclusions when possible by using other sources of information.
9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.	**9.** Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.	**9.** Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
Range and Level of Text Complexity		
10. By the end of grade 8, read and comprehend	**10.** By the end of grade 10, read and comprehend	**10.** By the end of grade 12, read and comprehend

science/technical texts in the grades 6–8 text complexity band independently and proficiently.	science/technical texts in the grades 9–10 text complexity band independently and proficiently.	science/technical texts in the grades 11–12 text complexity band independently and proficiently.

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College and Career Readiness Anchor Standards for Writing

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They relate to their College and Career Readiness (CCR) counterparts by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Text Types and Purposes[1]

1. Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.[2]
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

[1]These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.

Note on range and content of student writing

For students, writing is a key means of asserting and defending claims, showing what they know about a subject, and conveying what they have experienced, imagined, thought, and felt. To be college- and career-ready writers, students must take task, purpose, and audience into careful consideration, choosing words, information, structures, and formats deliberately. They need to be able to use technology strategically when creating, refining, and collaborating on writing. They have to become adept at gathering information, evaluating sources, and citing material accurately, reporting findings from their research and analysis of sources in a clear and cogent manner. They must have the flexibility, concentration, and fluency to produce high-quality first-draft text under a tight deadline and the capacity to revisit and make improvements to a piece of writing over multiple drafts when circumstances encourage or require it. To meet these goals, students must devote significant time and effort to writing, producing numerous pieces over short and long time frames throughout the year.

The standards below begin at grade 6; standards for K–5 writing in history/social studies, science, and technical subjects are integrated into the K–5 Writing standards.

Grades 6–8 students:	Grades 9–10 students:	Grades 11–12 students:
Text Types and Purposes		
2. Write arguments focused on *discipline-specific content*. a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. f. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. g. Establish and maintain a formal style. c. Provide a concluding statement or section that follows from and supports the argument presented.	**1.** Write arguments focused on *discipline-specific content*. f. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. g. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns. h. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. i. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. j. Provide a concluding statement or section that follows from or supports the argument presented.	**1.** Write arguments focused on *discipline-specific content*. f. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. g. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. h. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. i. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. j. Provide a concluding statement or section that follows from or supports the argument presented.

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Grades 6–8 students:	Grades 9–10 students:	Grades 11–12 students:
Text Types and Purposes (continued)		
4. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. g. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. h. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. i. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. j. Use precise language and domain-specific vocabulary to inform about or explain the topic. k. Establish and maintain a formal style and objective tone. l. Provide a concluding statement or section that follows from and supports the information or explanation presented.	**3.** Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. g. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. h. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. i. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. j. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. k. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. l. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).	**3.** Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
3. Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In history, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import. In science, students must be able to write precise enough descriptions of the step-by-step procedures they use in their investigations that others can replicate them and (possibly) reach the same results.	**3.** Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In history, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import. In science, students must be able to write precise enough descriptions of the step-by-step procedures they use in their investigations that others can replicate them and (possibly) reach the same results.	**3.** Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In history, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import. In science, students must be able to write precise enough descriptions of the step-by-step procedures they use in their investigations that others can replicate them and (possibly) reach the same results.

Grades 6–8 students:	Grades 9–10 students:	Grades 11–12 students:
Production and Distribution of Writing		
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	**4.** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	**4.** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.	**5.** Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	**5.** Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
6. Use technology, including the Internet, to produce and publish a minimum of five pages of writing as well as to interact and collaborate with others.	**6.** Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.	**6.** Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
Research to Build and Present Knowledge		
7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.	**7.** Conduct short as well as more sustained research projects to answer a question (including a self-generate question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.	**7.** Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.	**8.** Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.	**8.** Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
10. Draw evidence from informational texts to support analysis reflection, and research.	**9.** Draw evidence from informational texts to support analysis, reflection, and research.	**9.** Draw evidence from informational texts to support analysis, reflection, and research.
Range of Writing		
10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	**10.** Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	**10.** Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Contents

Introduction ..... ?
Standards for Mathematical Practice ..... ?
Kindergarten ..... ?
Grade 1 ..... ?
Grade 2 ..... ?
Grade 3 ..... ?
Grade 4 ..... ?
Grade 5 ..... ?
Grade 6 ..... ?
Grade 7 ..... ?
Grade 8 ..... ?
Introduction to the High School Standards ..... ?
High School—Number and Quantity ..... ?
High School—Algebra ..... ?
High School—Functions ..... ?
High School—Modeling ..... ?
High School—Geometry ..... ?
High School—Statistics and Probability ..... ?
Postscript: A Note on High School Courses ..... ?
Glossary ..... ?

Introduction
Toward greater focus and coherence

> *Mathematics experiences in early childhood settings should concentrate on (1) number (which includes whole number, operations, and relations) and (2) geometry, spatial relations, and measurement, with more mathematics learning time devoted to number than to other topics. [M]athematical process goals should be integrated in these content areas.*
>
> National Research Council, 2009

> *The composite standards [of Hong Kong, Korea and Singapore] have a number of features that can inform an international benchmarking process for the development of K–6 mathematics standards in the U.S. First, the composite standards concentrate the early learning of mathematics on the number, measurement, and geometry strands with less emphasis on data analysis and little exposure to algebra. The Hong Kong standards for grades 1–3 devote approximately half the targeted time to numbers and almost all the time remaining to geometry and measurement.*
>
> Ginsburg, Leinwand and Decker, 2009

> *Because the mathematics concepts in [U.S.] textbooks are often weak, the presentation becomes more mechanical than is ideal. We looked at both traditional and non-traditional textbooks used in the US and found this conceptual weakness in both.*
>
> Ginsburg et al., 2005

> *There are many ways to organize curricula. The challenge, now rarely met, is to avoid those that distort mathematics and turn off students.*
>
> Steen, 2007

For over a decade, research studies of mathematics education in high-performing countries have pointed to the conclusion that the mathematics curriculum in the United States must become substantially more focused and coherent in order to improve mathematics achievement in this country. To deliver on the promise of common standards, the standards must address the problem of a curriculum that is 'a mile wide and an inch deep.' These Standards are a substantial answer to that challenge.

It is important to recognize that "fewer standards" are no substitute for *focused* standards. Achieving "fewer standards" would be easy to do by resorting to broad, general statements. Instead, these Standards aim for clarity and specificity.

Assessing the coherence of a set of standards is more difficult than assessing their focus. William Schmidt and Richard Houang (2002) have said that content standards and curricula are coherent if they are:

> *articulated over time as a sequence of topics and performances that are logical and reflect, where appropriate, the sequential or hierarchical nature of the disciplinary content from which the subject matter derives. That is, what and how students are taught should reflect not only the topics that fall within a certain academic discipline,* ***but also the key ideas*** *that determine how knowledge is organized and generated within that discipline. This implies that "to be coherent," a set of content standards must evolve from particulars (e.g., the meaning and operations of whole numbers, including simple math facts and routine computational procedures associated with whole numbers and fractions) to deeper structures inherent in the discipline. This deeper structure then serves as a means for connecting the particulars (such as an understanding of the rational number system and its properties).* (emphasis added)

These Standards endeavor to follow such a design, not only by stressing conceptual understanding of key ideas, but also by continually returning to organizing principles such as place value or the laws of arithmetic to structure those ideas.

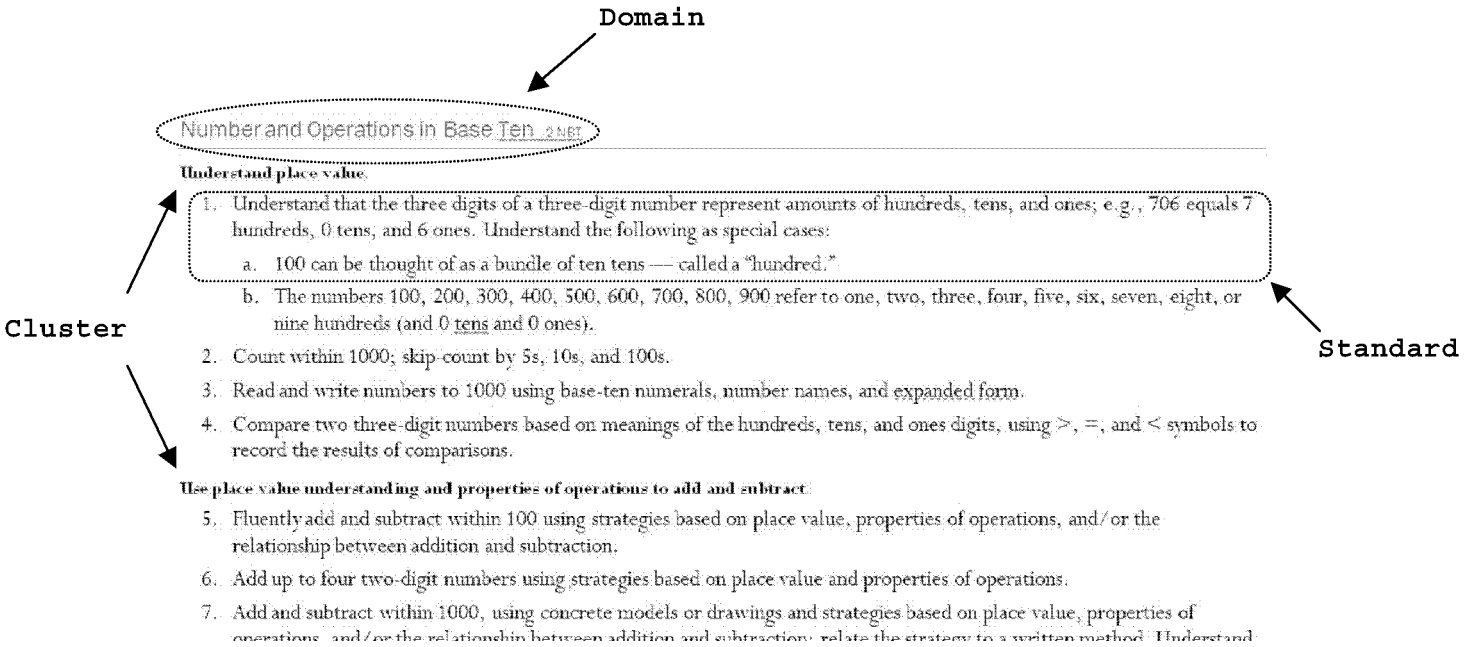
In addition, the 'sequence of topics and performances' that is outlined in a body of mathematics standards must also respect what is known about how students learn. As Confrey (2007) points out, developing "sequenced obstacles and challenges for students…absent the insights about meaning that derive from careful study of learning, would be unfortunate and unwise." In recognition of this, the development of these Standards began with research-based learning progressions detailing what is known today about how students' mathematical knowledge, skill, and understanding develop over time.

Understanding mathematics

These Standards define what students should understand and be able to do in their study of mathematics. Asking a student to understand something means asking a teacher to assess whether the student has understood it. But what does mathematical understanding look like? One hallmark of mathematical understanding is the ability to justify, in a way appropriate to the student's mathematical maturity, *why* a particular mathematical statement is true or where a mathematical rule comes from. There is a world of difference between a student who can summon a mnemonic device to expand a product such as $(a + b)(x + y)$ and a student who can explain where the mnemonic comes from. The student who can explain the rule understands the mathematics, and may have a better chance to succeed at a less familiar task such as expanding $(a + b + c)(x + y)$. Mathematical understanding and procedural skill are equally important, and both are assessable using mathematical tasks of sufficient richness.

The Standards begin on the next page with eight Standards for Mathematical Practice.

How to read the grade level standards



Standards define what students should understand and be able to do. **Clusters** summarize groups of related standards. Note that standards from different clusters may sometimes be closely related, because mathematics is a connected subject. **Domains** are larger groups of related standards. Standards from different domains may sometimes be closely related.

Dotted Underlines: Dotted underlines, for example, associative property, indicate terms that are defined in the Glossary. In each grade, underlining is used for the first occurrence of a defined term, but not in subsequent occurrences.

Mathematics | Standards for Mathematical Practice

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education: the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections; and the strands of mathematical proficiency specified in the National Research Council's report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy).

1 Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. Key related processes: Problem solving. Key related proficiencies: Conceptual understanding, strategic competence, productive disposition.

2 Reason abstractly and quantitatively.

Mathematically proficient students make sense of the quantities and their relationships in problem situations. Students bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects. Key related processes: Problem solving, Representation. Key related Key related proficiencies: Strategic competence, productive disposition.

3 Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. Key related processes: Problem solving, Representation. Key related proficiencies: Strategic competence, productive disposition.

4 Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. Key related processes: Representation. Key related proficiencies: Adaptive reasoning.

5 Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, ruler, protractor, calculator, spreadsheet, computer algebra system, statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts. Key related processes: Problem solving. Key related proficiencies: Strategic competence.

6 Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions. Key related processes: Problem solving, Representation. Key related proficiencies: Procedural fluency.

7 Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. Key related processes: Reasoning and proof. Key related proficiencies: Adaptive reasoning.

8 Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x -$

1) = 3. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results. Key related processes: Problem solving, Reasoning and proof. Key related proficiencies: Adaptive reasoning.

Connecting the Standards for Mathematical Practice to the Standards for Mathematical Content

The Standards for Mathematical Practice describe ways in which developing student-practitioners of the discipline of mathematics increasingly ought to engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle and high school years. Designers of curriculum, assessment, and professional development should all attend to the need to connect the mathematical practices to mathematical content in mathematics instruction.

The Standards for Mathematical Content are a balanced combination of procedure and understanding. Expectations that begin with the word "understand" are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices.

In this respect, those content standards which set an expectation of understanding are potential "points of intersection" between the Standards for Mathematical Content and the Standards for Mathematical Practice. These points of intersection are intended to be weighted toward central and generative concepts in the school mathematics curriculum that most merit the time, resources, innovative energies, and focus necessary to qualitatively improve curriculum, instruction, assessment, professional development, and student achievement in mathematics.

Mathematics | Kindergarten

In Kindergarten, instructional time should focus on two critical areas: (1) representing and comparing whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

(1) Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals; and modeling simple joining and separating situations with sets of objects, or eventually with equations such as $5 + 2 = 7$ and $7 – 2 = 5$. (Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.) Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

(2) Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.

Grade Level Overview

Counting and Cardinality	• Know number names and the count sequence. • Count to tell the number of objects. • Compare numbers.
Operations and Algebraic Thinking	• Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.
Number and Operations in Base Ten	• Work with numbers 11-19 to gain foundations for place value.
Measurement and Data	• Describe and compare measurable attributes. • Classify objects and count the number of objects in each category
Geometry	1. Identify and describe shapes. 2. Analyze, compare, create, and compose shapes.

Mathematical Practices
1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Counting and Cardinality K.CC

Know number names and the count sequence.

1. Count to 100 by ones and by tens.
2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

Count to tell the number of objects.

4. Understand the relationship between numbers and quantities; connect counting to cardinality.
   a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
   b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
   c. Understand that each successive number name refers to a quantity that is one larger.
5. Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle; or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.

Compare numbers.

6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.[1]
7. Compare two numbers between 1 and 10 presented as written numerals.

Operations and Algebraic Thinking K.OA

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

1. Represent addition and subtraction with objects, fingers, mental images, drawings,[2] sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
3. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).
4. For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.
5. Fluently add and subtract within 5.

Number and Operations in Base Ten K.NBT

Work with numbers 11-19 to gain foundations for place value.

1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as $18 = 10 + 8$); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

Measurement and Data K.MD

Describe and compare measurable attributes.

1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
2. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*

Classify objects and count the number of objects in each category.

3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.[3]

[1] Include groups with up to ten objects.
[2] Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards.)

Identify and describe shapes (such as squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*.
2. Correctly name shapes regardless of their orientations or overall size.
3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").

Analyze, compare, create, and compose shapes.

4. Analyze and compare a variety of two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).
5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
6. Compose simple shapes to form larger shapes.

[2] Limit category counts to be less than or equal to 10.

Mathematics | Grade 1

In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

(1) Students develop strategies for adding and subtracting whole numbers based on their prior work with small numbers. They use a variety of models, including discrete objects and length-based models (e.g., cubes connected to form lengths), to model add-to, take-from, put-together, take-apart, and compare situations to develop meaning for the operations of addition and subtraction, and to develop strategies to solve arithmetic problems with these operations. Students understand connections between counting and addition and subtraction (e.g., adding two is the same as counting on two). They use properties of addition to add whole numbers and to create and use increasingly sophisticated strategies based on these properties (e.g., "making tens") to solve addition and subtraction problems within 20. By comparing a variety of solution strategies, children build their understanding of the relationship between addition and subtraction.

(2) Students develop, discuss, and use efficient, accurate, and generalizable methods to add within 100 and subtract multiples of 10. They compare whole numbers (at least to 100) to develop understanding of and solve problems involving their relative sizes. They think of whole numbers between 10 and 100 in terms of tens and ones (especially recognizing the numbers 11 to 19 as composed of a ten and some ones). Through activities that build number sense, they understand the order of the counting numbers and their relative magnitudes.

(3) Students develop an understanding of the meaning and processes of measurement, including underlying concepts such as iterating (the mental activity of building up the length of an object with equal-sized units) and the transitivity principle for indirect measurement.[4]

(4) Students compose and decompose plane or solid figures (e.g., put two triangles together to make a quadrilateral) and build understanding of part-whole relationships as well as the properties of the original and composite shapes. As they combine shapes, they recognize them from different perspectives and orientations, describe their geometric attributes, and determine how they are alike and different, to develop the background for measurement and for initial understandings of properties such as congruence and symmetry.

Grade Level Overview

Operations and Algebraic Thinking
- Represent and solve problems involving addition and subtraction.
- Understand and apply properties of operations and the relationship between addition and subtraction.
- Add and subtract within 20.
- Work with addition and subtraction equations.

Number and Operations in Base Ten
- Extend the counting sequence.
- Understand place value.
- Use place value understanding and properties of operations to add and subtract.

Measurement and Data
- Measure lengths indirectly and by iterating length units.
- Tell and write time.
- Represent and interpret data.

Geometry
- Reason with shapes and their attributes.

Mathematical Practices
1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

[4] Students should apply the principle of transitivity of measurement to make indirect comparisons, but they need not use this technical term.

Operations and Algebraic Thinking 1.OA

Represent and solve problems involving addition and subtraction.

1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.[5]
2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, *e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.*

Understand and apply properties of operations and the relationship between addition and subtraction.

3. Apply properties of operations as strategies to add and subtract.[6] *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*
4. Understand subtraction as an unknown-addend problem. *For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.*

Add and subtract within 20.

5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

Work with addition and subtraction equations.

7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.*
8. Determine the unknown number in a whole-number addition or subtraction equation. *For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = __ – 3, 6 + 6 = __.*

Number and Operations in Base Ten 1.NBT

Extend the counting sequence.

1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

Understand place value.

2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
   a. 10 can be thought of as a bundle of ten ones — called a "ten."
   b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
   c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.

Use place value understanding and properties of operations to add and subtract.

4. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

[5] See Glossary, Table 1.
[6] Students need not use formal terms for these properties.

Measurement and Data 1.MD

Measure lengths indirectly and by iterating length units.

1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.
2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*

Tell and write time.

3. Tell and write time in hours and half-hours using analog and digital clocks.

Represent and interpret data.

4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

Geometry 1.G

Reason with shapes and their attributes.

1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size) for a wide variety of shapes; build and draw shapes to possess defining attributes.
2. Compose two-dimensional shapes (such as rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (such as cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.[7]
3. Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

[7] Students do not need to learn formal names such as "right rectangular prism."

Mathematics | Grade 2

In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

(1) Students extend their understanding of the base-ten system. This includes ideas of counting in fives, tens, and multiples of hundreds, tens, and ones, as well as number relationships involving these units, including comparing. Students understand multi-digit numbers (up to 1000) written in base-ten notation, recognizing that the digits in each place represent amounts of thousands, hundreds, tens, or ones (e.g., 853 is 8 hundreds + 5 tens + 3 ones).

(2) Students use their understanding of addition to develop fluency with addition and subtraction within 100. They solve problems by applying their understanding of models for addition and subtraction, and they develop, discuss, and use efficient, accurate, and generalizable methods to compute sums and differences of whole numbers in base-ten notation, using their understanding of place value and the properties of operations. They select and accurately apply methods that are appropriate for the context and the numbers involved to mentally calculate sums and differences for numbers with only tens or only hundreds.

(3) Students recognize the need for standard units of measure (centimeter and inch) and they use rulers and other measurement tools with the understanding that linear measure involves an iteration of units. They recognize that the smaller the unit, the more iterations they need to cover a given length.

(4) Students describe and analyze shapes by examining their sides and angles. Students investigate, describe, and reason about decomposing and combining shapes to make other shapes. Through building, drawing, and analyzing two- and three-dimensional shapes, students develop a foundation for understanding area, volume, congruence, similarity, and symmetry in later grades.

Grade Level Overview

Operations and Algebraic Thinking
- Represent and solve problems involving addition and subtraction.
- Add and subtract within 20.
- Work with equal groups of objects to gain foundations for multiplication.

Number and Operations in Base Ten
- Understand place value.
- Use place value understanding and properties of operations to add and subtract.

Measurement and Data
- Measure and estimate lengths in standard units.
- Relate addition and subtraction to length.
- Work with time and money.
- Represent and interpret data.

Geometry
- Reason with shapes and their attributes.

Mathematical Practices
1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Operations and Algebraic Thinking 2.OA

Represent and solve problems involving addition and subtraction.

1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.[8]

Add and subtract within 20.

2. Fluently add and subtract within 20. By end of Grade 2, know from memory all sums of two one-digit numbers.

Work with equal groups of objects to gain foundations for multiplication.

3. Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.
4. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.

Number and Operations in Base Ten 2.NBT

Understand place value.

1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:
   a. 100 can be thought of as a bundle of ten tens — called a "hundred."
   b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
2. Count within 1000; skip-count by 5s, 10s, and 100s.
3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
4. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.

Use place value understanding and properties of operations to add and subtract.

5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
6. Add up to four two-digit numbers using strategies based on place value and properties of operations.
7. Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
8. Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.
9. Explain why addition and subtraction strategies work, using place value and the properties of operations.[9]

Measurement and Data 2.MD

Measure and estimate lengths in standard units.

1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
2. Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
3. Estimate lengths using units of inches, feet, centimeters, and meters.
4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

Relate addition and subtraction to length.

[8] See Glossary, Table 1.
[9] Explanations may be supported by drawings or objects.

5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
6. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, …, and represent whole-number sums and differences on a number line diagram.

Work with time and money.

7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. *Example: If you have 2 dimes and 3 pennies, how many cents do you have?*

Represent and interpret data.

9. Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.
10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems[10] using information presented in a bar graph.

Geometry 2.G

Reason with shapes and their attributes.

1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.[11] Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
3. Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words *halves*, *thirds*, *half of*, *a third of*, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.

[10] See Glossary, Table 1.
[11] Sizes are compared directly or visually, not compared by measuring.

Mathematics | Grade 3

In Grade 3, instructional time should focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

(1) Students develop an understanding of the meanings of multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models; multiplication is finding an unknown product, and division is finding an unknown factor in these situations. For equal-sized group situations, division can require finding the unknown number of groups or the unknown group size. Students use properties of operations to calculate products of whole numbers, using increasingly sophisticated strategies based on these properties to solve multiplication and division problems involving single-digit factors. By comparing a variety of solution strategies, students learn the relationship between multiplication and division.

(2) Students develop an understanding of fractions, beginning with unit fractions. Students view fractions in general as being built out of unit fractions, and they use fractions along with visual fraction models to represent parts of a whole. Students understand that the size of a fractional part is relative to the size of the whole; for example, $1/2$ of the paint in a large bucket could be less paint than $1/3$ of the paint in a smaller bucket; but $1/3$ of a ribbon is longer than $1/5$ of the same ribbon because when the ribbon is divided into 3 equal parts, the parts are longer than when the ribbon is divided into 5 equal parts. Students are able to use fractions to represent numbers equal to, less than, and greater than one. They solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators.

(3) Students recognize area as an attribute of two-dimensional regions. They measure the area of a shape by finding the total number of same-size units of area required to cover the shape without gaps or overlaps, a square with sides of unit length being the standard unit for measuring area. Students understand that rectangular arrays can be decomposed into identical rows or into identical columns. By decomposing rectangles into rectangular arrays of squares, students connect area to multiplication, and justify using multiplication to determine the area of a rectangle.

(4) Students describe, analyze, and compare properties of two-dimensional shapes. They compare and classify shapes by their sides and angles, and connect these with definitions of shapes. Students also relate their fraction work to geometry by expressing the area of part of a shape as a unit fraction of the whole.

Grade Level Overview

Operations and Algebraic Thinking	• Represent and solve problems involving multiplication and division. • Understand properties of multiplication and the relationship between multiplication and division. • Multiply and divide within 100. • Solve problems involving the four operations, and identify and explain patterns in arithmetic.
Number and Operations in Base Ten	• Use place value understanding and properties of operations to perform multi-digit arithmetic.
Number and Operations—Fractions	• Develop understanding of fractions as numbers.
Measurement and Data	• Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects. • Represent and interpret data. • Geometric measurement: understand concepts of area and relate area to multiplication and to addition. • Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
Geometry	• Reason with shapes and their attributes.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Operations and Algebraic Thinking 3.OA

Represent and solve problems involving multiplication and division.

1. Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, , describe a context in which a total number of objects can be expressed as 5 × 7.*
2. Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as* 56 ÷ 8.
3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.[12]
4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = ÷ 3, 6 × 6 = ?.*

Understand properties of multiplication and the relationship between multiplication and division.

5. Apply properties of operations as strategies to multiply and divide.[13] *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by multiplying 3 × 5 = 15 then multiplying 15 × 2 = 30, or by multiplying 5 × 2 = 10 then multiplying 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*
6. Understand division as an unknown-factor problem. *For example, divide 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*

Multiply and divide within 100.

7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By end of Grade 3, know from memory all products of one-digit numbers.

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

8. Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity; assess the reasonableness of answers using mental computation and estimation strategies including rounding.[14]
9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*

Number and Operations in Base Ten 3.NBT

Use place value understanding and properties of operations to perform multi-digit arithmetic.[15]

1. Use place value understanding to round whole numbers to the nearest 10 or 100.
2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
3. Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.

Number and Operations—Fractions[16] 3.NF

Develop understanding of fractions as numbers.

1. Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$.
2. Understand a fraction as a number on the number line; represent fractions on a number line diagram.

[12] See Glossary, Table 2.
[13] Students need not use formal terms for these properties.
[14] This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order.
[15] A range of algorithms may be used.
[16] Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, 8.

a. Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$ on the number line.

b. Represent a fraction a/b on a number line diagram by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.

3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

a. Recognize and generate simple equivalent fractions (e.g., $1/2 = 2/4$, $4/6 = 2/3$); explain why the fractions are equivalent, e.g., by using a visual fraction model.

b. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form $3 = 3/1$; recognize that $6/1 = 6$; locate $4/4$ and 1 at the same point of a number line diagram.*

c. Compare two fractions with the same numerator or the same denominator, by reasoning about their size; recognize that valid comparisons rely on the two fractions referring to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

Measurement and Data 3.MD

Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

1. Tell and write time to the nearest minute and measure time intervals in minutes; solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (*ℓ*).[17] Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.[18]

Represent and interpret data.

3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 1 pet, 5 pets, or 10 pets.*
4. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.

Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

5. Recognize area as an attribute of plane figures and understand concepts of area measurement.

a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.

b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.

6. Measure areas by counting unit squares, using square cm, square m, square in, square ft, and improvised units.
7. Relate area to the operations of multiplication and addition.

a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.

b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems; represent whole-number products as rectangular areas in mathematical reasoning.

c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$; use area models to represent the distributive property in mathematical reasoning.

d. Recognize area as additive; find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.

Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

8. Solve real-world and mathematical problems involving perimeters of polygons, such as finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different area or with the same area and different perimeter.

Geometry 3.G

[17] Excludes compound units such as cm^3 and finding the geometric volume of a container.

[18] Excludes multiplicative comparison problems (problems involving notions of "times as much"; see Glossary, Table 2).

Reason with shapes and their attributes.

1. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals); recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
2. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part is $1/4$ of the area of the shape.*

Mathematics | Grade 4

In Grade 4, instructional time should focus on four critical areas: (1) developing understanding and fluency with whole number multiplication, and developing understanding of whole number division; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) continuing to develop understanding of area; and (4) understanding that geometric figures can be analyzed and classified based on their properties such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

(1) Students generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place. They use understandings of multiplication and division to develop fluency with multiplication and division of whole numbers. They apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers. Depending on the numbers and the context, they select and accurately apply appropriate methods to estimate or mentally calculate products. They develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems. Students apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use efficient, accurate, and generalizable procedures to find quotients involving multi-digit dividends. They select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.

(2) Students develop understanding of fraction equivalence and operations with fractions. They recognize that two different fractions can be equal (e.g., $15/9 = 5/3$), and they develop methods for generating and recognizing equivalent fractions. Students extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.

(3) Students develop their understanding of area. They understand and apply the area formula for rectangles and also find areas of shapes that can be decomposed into rectangles. They select appropriate units, strategies (e.g., decomposing shapes), and tools for solving problems that involve estimating and measuring area.

(4) Students describe, analyze, compare, and classify two-dimensional shapes. Through building, drawing, and analyzing two-dimensional shapes, students deepen their understanding of properties of two-dimensional objects and the use of them to solve problems involving symmetry.

Grade Level Overview

Operations and Algebraic Thinking	• Use the four operations with whole numbers to solve problems. • Gain familiarity with factors and multiples. • Generate and analyze patterns.
Number and Operations in Base Ten	• Generalize place value understanding for multi-digit whole numbers. • Use place value understanding and properties of operations to perform multi-digit arithmetic.
Number and Operations—Fractions	• Extend understanding of fraction equivalence and ordering. • Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. • Understand decimal notation for fractions, and compare decimal fractions.
Measurement and Data	• Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. • Represent and interpret data. • Geometric measurement: understand concepts of angle and measure angles.
Geometry	• Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Operations and Algebraic Thinking 4.OA

Use the four operations with whole numbers to solve problems.

1. Interpret a multiplication equation as a comparison, e.g., interpret $5 \times 7 = 35$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
2. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.[19]
3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity; assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Gain familiarity with factors and multiples.

4. Find the factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.

Generate and analyze patterns.

5. Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example: Given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

Number and Operations in Base Ten[20] 4.NBT

Generalize place value understanding for multi-digit whole numbers.

1. Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.*
2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits, using >, =, and < symbols to record the results of comparisons.
3. Use place value understanding to round multi-digit whole numbers to any place.

Use place value understanding and properties of operations to perform multi-digit arithmetic.[21]

4. Add and subtract multi-digit whole numbers accurately and efficiently using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Number and Operations—Fractions[22] 4.NF

Extend understanding of fraction equivalence and ordering.

1. Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size; use this principle to recognize and generate equivalent fractions.
2. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$; recognize that valid comparisons rely on the two fractions referring to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

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[19] See Glossary, Table 2.
[20] Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.
[21] A range of algorithms may be used.
[22] Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, 100.

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

3. Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.
   a. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation (e.g., $3/8 = 1/8 + 1/8 + 1/8$ and $3/8 = 1/8 + 2/8$). Justify decompositions, e.g., by using a visual fraction model.
   b. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
   c. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.
4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
   a. Understand a fraction a/b as a multiple of $1/b$. *For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.*
   b. Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)*
   c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example: If each person at a party will eat $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*

Understand decimal notation for fractions, and compare decimal fractions.

5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.[23] *For example, express $3/10$ as $30/100$ and add $3/10 + 4/100 = 34/100$.*
6. Interpret a two-digit decimal as a fraction and use decimal notation for parts of wholes; round decimals to the nearest whole number by reasoning about their size. *For example, rewrite 1.62 as $1\ 62/100$; describe a length as 1.62 meters; locate 1.62 on a number line diagram and round 1.62 to 2.*
7. Compare two decimals to hundredths by reasoning about their size; recognize that valid comparisons rely on the two decimals referring to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.

Measurement and Data 4.MD

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; ℓ, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of smaller unit. Record measurement equivalents in a two-column table. *For example: Know that 1 ft is 12 times as long as 1 in; express the length of a 4 ft snake as 48 in; generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*
2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
3. Apply the area and perimeter formulas for rectangles in real-world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*

Represent and interpret data.

4. Make a line plot to display a data set of measurements in fractions of a unit ($1/2$, $1/4$, $1/8$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*

Geometric measurement: understand concepts of angle and measure angles.

5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

[23] Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.

a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $1/360$ of a circle is called a "one-degree angle," and can be used to measure angles.

b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.

6. Measure angles in whole-number degrees using a protractor; sketch angles of specified measure.
7. Recognize angle measure as additive; when an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

Geometry 4.G

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines; identify these in two-dimensional figures.
2. Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of specified size. Recognize right triangles as a category, and identify right triangles.
3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts; identify line-symmetric figures and draw lines of symmetry.

Mathematics | Grade 5

In Grade 5, instructional time should focus on four critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) developing fluency with whole number operations; (3) integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths; and (4) developing understanding of volume.

(1) Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them. Students also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)

(2) Students develop fluency with multi-digit addition, subtraction, and multiplication, and develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations.

(3) Students apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations, and make reasonable estimates of their results. Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.

(4) Students recognize volume as an attribute of three-dimensional space. They understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. They select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. They decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They measure necessary attributes of shapes in order to determine volumes to solve real-world and mathematical problems.

Grade Level Overview

Operations and Algebraic Thinking	• Write and interpret numerical expressions. • Analyze patterns and relationships.
Number and Operations in Base Ten	• Understand the place value system. • Perform operations with multi-digit whole numbers and with decimals to hundredths.
Number and Operations—Fractions	• Use equivalent fractions as a strategy to add and subtract fractions. • Apply and extend previous understandings of multiplication and division to multiply and divide fractions.
Measurement and Data	• Convert like measurement units within a given measurement system. • Represent and interpret data. • Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.
Geometry	• Graph points on the coordinate plane to solve real-world and mathematical problems. • Classify two-dimensional figures into categories based on their properties.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Operations and Algebraic Thinking 5.OA

Write and interpret numerical expressions.

1. Interpret grouping symbols in numerical expressions and evaluate expressions with grouping symbols.
2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as $2 \times (8 + 7)$; recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.*

Analyze patterns and relationships.

3. Generate two numerical patterns using two given rules. Graph pairs of corresponding terms on a coordinate plane, and identify apparent relationships between corresponding terms. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*

Number and Operations in Base Ten 5.NBT

Understand the place value system.

1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1/10$ of what it represents in the place to its left.
2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use positive integer exponents to denote powers of 10.
3. Read, write, and compare decimals to thousandths.
   a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.
   b. Compare two decimals to thousandths based on meanings of the digits, using >, =, and < symbols to record the results of comparisons.
4. Use place value understanding to round decimals to any place.

Perform operations with multi-digit whole numbers and with decimals to hundredths.

5. Fluently add, subtract, and multiply multi-digit whole numbers using the standard algorithm for each operation.
6. Find quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division; express the quotient as a fraction or mixed number. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
7. Add, subtract, multiply, and divide decimals of one or two digits, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Number and Operations—Fractions 5-NF

Use equivalent fractions as a strategy to add and subtract fractions.

1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)*
2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result $2/5 + 1/2 = 3/7$ by observing that $3/7 < 1/2$.*

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

3. Interpret a fraction as the result of dividing the numerator by the denominator ($a/b = a \div b$); solve word problems involving division of whole numbers leading to fractional answers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret $3/4$ as the result of dividing 3 by 4, noting that $3/4$ multiplied by 4 equals 3 and that when 3 wholes are shared equally among 4 people each person has a share of size $3/4$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*

4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
   a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. *For example, use a visual fraction model to show* $(2/3) \times 4 = 8/3$, *and create a story context for this equation; do the same with* $(2/3) \times (4/5) = 8/15$. (*In general,* $(a/b) \times (c/d) = ac/bd$.)
   b. Find the area of a rectangle with fractional side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths; multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.
5. Interpret multiplication as scaling (resizing), including by:
   a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
   b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.
6. Solve real-world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.[24]
   a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for* $(1/3) \div 4$ *and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that* $(1/3) \div 4 = 1/12$ *because* $(1/12) \times 4 = 1/3$.
   b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for* $4 \div (1/5)$ *and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that* $4 \div (1/5) = 20$ *because* $20 \times (1/5) = 4$.
   c. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, How much chocolate will each person get if 3 people share* $1/2$ *lb of chocolate equally? How many* $1/3$*-cup servings are in 2 cups of raisins?*

Measurement and Data 5.MD

Convert like measurement units within a given measurement system.

1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step real-world problems.

Represent and interpret data.

2. Make a line plot to display a data set of measurements in fractions of a unit ($1/2$, $1/4$, $1/8$). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*

Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
   a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.
   b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.
4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
5. Relate volume to the operations of multiplication and addition and solve real-world and mathematical problems involving volume.
   a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent three-fold whole-number products as volumes, e.g., to represent the associative property of multiplication.

[24] Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade.

b. Apply the formulas $V = \ell\, w\, h$ and $V = b\, h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems;

c. Recognize volume as additive; find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real-world problems.

Geometry 5.G

Graph points on the coordinate plane to solve real-world and mathematical problems.

1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., *x*-axis and *x*-coordinate, *y*-axis and *y*-coordinate).
2. Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Classify two-dimensional figures into categories based on their properties.

3. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*
4. Classify two-dimensional figures in a hierarchy based on properties.

Mathematics | Grade 6

In Grade 6, instructional time should focus on four critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions; (3) developing understanding of and using formulas to determine areas of two-dimensional shapes and distinguishing between volume and surface area of three-dimensional shapes; and (4) writing, interpreting, and using expressions and equations.

(1) Students use reasoning about multiplication and division of quantities to solve ratio and rate problems. By viewing equivalent ratios and rates as deriving from, and extending, pairs of rows (or columns) in the multiplication table, and by analyzing simple drawings that indicate the relative size of quantities, students extend multiplication and division to ratios and rates. Thus students expand the scope of problems for which they can use multiplication and division to solve problems, and they build on their understanding of fractions to understand ratios. Students solve a wide variety of problems involving ratios and rates.

(2) Students use the meaning of fractions, the meanings of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for dividing fractions make sense. Students are able to use these operations to solve problems.

(3) Students reason about relationships among shapes to determine area, surface area, and volume. They find areas of right triangles, other triangles, and special quadrilaterals by decomposing these shapes, rearranging or removing pieces, and relating the shapes to rectangles. Using these methods, students discuss, develop, and justify formulas for areas of triangles and parallelograms. Students find areas of polygons and surface areas of prisms and pyramids by decomposition into pieces whose area they can determine. They reason about right rectangular prisms with rational sides to extend the formula for its volume to rational side lengths. They prepare for work on scale drawings and constructions in Grade 8 by drawing polygons in the coordinate plane.

(4) Students understand the use of variables in mathematical expressions. They write expressions and equations that correspond to given situations, evaluate expressions, and use expressions and formulas to solve problems. Students understand that expressions in different forms can be equivalent, and they use the properties of operations to rewrite expressions in equivalent forms. Students know that the solutions of an equation are the values of the variables that make the equation true. Students use properties of operations and the idea of maintaining the equality of both sides of an equation to solve simple one-step equations. Students construct and analyze tables, such as tables of quantities that are in equivalent ratios, and they use equations (such as $3x = y$) to describe relationships between quantities.

Students in Grade 6 develop their ability to think statistically. Students recognize that a typical data distribution does not have a definite center, and so different ways to measure center yield different values. The median measures center in the sense that it is roughly the middle value. The mean measures center in the sense that it is the value that each data point would take on if the total of the data values were redistributed fairly, and also in the sense that it is a balance point. Students learn to describe and summarize distributions of data, identifying clusters, peaks, gaps, and symmetry, considering the context in which the data was collected.

Grade Level Overview

Ratios and Proportional Relationships	• Understand ratio concepts and use ratio reasoning to solve problems.
The Number System	• Apply and extend previous understandings of multiplication and division to divide fractions by fractions. • Apply and extend previous understandings of numbers to the system of rational numbers.
Expressions and Equations	• Apply and extend previous understandings of arithmetic to algebraic expressions. • Reason about and solve one-variable equations and inequalities. • Represent and analyze quantitative relationships between dependent and independent variables.
Geometry	• Solve real-world and mathematical problems involving area, surface area, and volume.
Statistics and Probability	• Develop understanding of statistical variability. • Summarize and describe distributions.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Ratios and Proportional Relationships 6.RP

Understand ratio concepts and use ratio reasoning to solve problems.

1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."*
2. Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is $3/4$ cup of flour for each cup of sugar." "We paid $75 for 15 paperbacks, which is a rate of $5 per paperback."* [1]
3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
   a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.
   b. Solve unit rate problems including unit pricing and constant speed. *For example, If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*
   c. Find a percentage of a quantity as a rate per 100 (e.g., 30% of a quantity means $30/100$ times the quantity); solve problems involving finding the whole given a part and the percentage.
   d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

The Number System 6.NS

Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, create a story context for $(2/3) \div (3/4)$ and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that $(2/3) \div (3/4) = 8/9$ because $3/4$ of $8/9$ is $2/3$. (In general, $(a/b) \div (c/d) = ad/bc$.). How much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $3/4$-cup servings are in $2/3$ of a cup of yogurt? How wide is a rectangular strip of land with length $3/4$ mi and area $1/2$ square mi?*
2. Fluently divide multi-digit numbers using the standard algorithm for each operation.

Apply and extend previous understandings of numbers to the system of rational numbers.

3. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, debits/credits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
4. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate planes familiar from previous grades to represent negative numbers and their distance from 0.
   a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$, and that 0 is its own opposite.
   b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
   c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
5. Understand the ordering of rational numbers.
   a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *For example, interpret $-3 > -7$ as a statement that -3 is located to the right of -7 on a number line oriented from left to right.*
   b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write $-3\,^{\circ}C > -7\,^{\circ}C$ to express the fact that $-3\,^{\circ}C$ is warmer than $-7\,^{\circ}C$.*
6. Understand absolute value and its relationship to the order of rational numbers.

[1] Expectations for unit rates in this grade are limited to non-complex fractions.

a. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. *For example, for an account balance of –30 dollars, write |–30| = 30 to describe the size of the debt in dollars.*

b. Distinguish comparisons of absolute value from statements of order. *For example, recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars.*

7. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane, including using coordinates and absolute value reasoning to find distances between points with the same first coordinate or the same second coordinate.

Expressions and Equations 6.EE

Apply and extend previous understandings of arithmetic to algebraic expressions.

1. Evaluate numerical expressions involving whole-number exponents.
2. Write, read, and evaluate expressions in which letters stand for numbers.
   a. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as $5 - y$.*
   b. Identify parts of an expression using mathematical language (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. *For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.*
   c. Evaluate expressions by substituting values for their variables, including when using formulas in real-world problems. Perform arithmetic operations (including those involving whole-number exponents) in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas $V = s^3$ and $A = 6s^2$ to find the volume and surface area of a cube with sides of length $s = 1/2$.*
3. Apply the properties of operations as strategies to generate equivalent expressions. *For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply properties of operations to $y + y + y$ to produce the equivalent expression 3y.*
4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). *For example, the expressions $y + y + y$ and 3y are equivalent because they name the same number regardless of which number y stands for.*

Reason about and solve one-variable equations and inequalities.

5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
6. Use variables to stand for numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can be used in cases where a number is unknown, or where, for the purpose at hand, it can be any number in a specified set.
7. Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.
8. Write a statement of inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities graphically on a number line diagram.

Represent and analyze quantitative relationships between dependent and independent variables.

9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.*

Geometry 6.G

Solve real-world and mathematical problems involving area, surface area, and volume.

1. Find area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the

prism. Apply the formulas $V = \ell\, w\, h$ and $V = b\, h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.

3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.
4. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

Statistics and Probability 6.SP

Develop understanding of statistical variability.

1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*
2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its overall shape, center and spread.
3. Recognize that a measure of center for a numerical data set summarizes all of its values using a single number, while a measure of variation describes how its values vary using a single number.

Summarize and describe distributions.

4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
5. Summarize numerical data sets in relation to their context, such as by:
    a. Reporting the number of observations.
    b. Describing the nature of the attribute of investigation, including how it was measured and its units of measurement.
    c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data was gathered.
    d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data was gathered.

Mathematics | Grade 7

In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and solving linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

(1) Students extend their understanding of ratios and develop understanding of proportionality to solve single- and multi-step problems. Students use their understanding of ratios and proportionality to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease. Students solve problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. Students graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line, called the slope. They distinguish proportional relationships from other relationships.

(2) Students develop a unified understanding of number, recognizing fractions, decimals, and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division and their properties to all rational numbers, including integers and numbers represented by complex fractions and negative fractions. By applying the properties of operations, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain why the rules for adding, subtracting, multiplying, and dividing with negative numbers make sense. They use the arithmetic of rational numbers as they formulate and solve linear equations in one variable and use these equations to solve problems.

(3) Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity in Grade 8 they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by taking slices. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects made up from triangles, quadrilaterals, polygons, cubes and right prisms.

(4) Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

Grade Level Overview

Ratios and Proportional Relationships	• Analyze proportional relationships and use them to solve real-world and mathematical problems.
The Number System	• Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.
Expressions and Equations	• Use properties of operations to generate equivalent expressions. • Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
Geometry	• Draw, construct and describe geometrical figures and describe the relationships between them. • Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
Statistics and Probability	• Use random sampling to draw inferences about a population • Draw informal comparative inferences about two populations. • Investigate chance processes and develop, use, and evaluate probability models.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Ratios and Proportional Relationships 7.RP

Analyze proportional relationships and use them to solve real-world and mathematical problems.

1. Compute unit rates associated with ratios of nonnegative rational numbers, including ratios of lengths, areas and other quantities measured in like or different units. *For example, If a person walks ½ mile in each ¼ hour, compute the unit rate as the complex fraction ½ / ¼ miles per hour, equivalently 2 miles per hour.*
2. Recognize and represent proportional relationships between covarying quantities.
   a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
   b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
   c. Represent proportional relationships by equations. *For example, total cost, t, is proportional to the number, n, purchased at a constant price, p; this relationship can be expressed as $t = pn$.*
   d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.
3. Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*

The Number System 7.NS

Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.
   a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.*
   b. Understand $p + q$ as the number located a distance $|q|$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.
   c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
   d. Apply properties of operations as strategies to add and subtract rational numbers.
2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
   a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
   b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p/q is a rational number, then $-(p/q) = (-p)/q = p/(-q)$. Interpret products of rational numbers by describing real-world contexts.
   c. Apply properties of operations as strategies to multiply and divide rational numbers.
   d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.
3. Solve real-world and mathematical problems involving the four operations with rational numbers.[2]

Expressions and Equations 7.EE

Use properties of operations to generate equivalent expressions.

1. Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.*

[2] Computations with rational numbers extend the rules for manipulating fractions to complex fractions.

2. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
3. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, $a + 0.05a = 1.05a$ means that "increase by 5%" is the same as "multiply by 1.05."*

Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

4. Use numbers expressed in the form of a single digit times a whole-number power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9, and determine that the world population is more than 20 times larger.*
5. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations as strategies for calculating with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional $1/10$ of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar $9\ 3/4$ inches long in the center of a door that is $27\ 1/2$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*
6. Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
    a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare the algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, The perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?*
    b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example, As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*

Geometry 7.G

Draw, construct, and describe geometrical figures and describe the relationships between them.

1. Solve problems involving scale drawings of geometric figures in the coordinate plane, such as computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.
2. Draw (freehand, with ruler and protractor, and with technology) geometric shapes from given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the triangle is uniquely defined, ambiguously defined or nonexistent.
3. Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.

Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

4. Know the formulas for the area and circumference of a circle and solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
5. Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
6. Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

Statistics and Probability 7.SP

Use random sampling to draw inferences about a population.

1. Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
2. Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. *For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*

Draw informal comparative inferences about two populations

3. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean average deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.*
4. Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*

Investigate chance processes and develop, use, and evaluate probability models.

5. Understand that the probability of a chance event is a number between 0 and 1 expressing the likelihood of that event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around ½ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
6. Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. *For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.*
7. Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.
    a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.*
    b. Develop a possibly non-uniform probability model by observing frequencies in data generated from a chance process. *For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?*
8. Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.
    a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
    b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes for which the event occurs.
    c. Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: if 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*

Mathematics | Grade 8

In Grade 8, instructional time should focus on three critical areas: (1) solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.

(1) Students use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems. Students recognize proportions ($y / x = m$ or $y = mx$) as a special case of linear equations, $y = mx + b$, understanding that the constant of proportionality (m) is the slope and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x-coordinate changes by an amount A, the output or y-coordinate changes by the amount $m \cdot A$. Students also formulate and solve linear equations in one variable and use these equations to solve problems. Students also use a linear equation to describe the association between two quantities in a data set (such as arm span vs. height for students in a classroom). At this grade, fitting the model, and assessing its fit to the data are done informally. Interpreting the model in the context of the data requires students to express a relationship between the two quantities in question.

Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and the concept of logical equivalence, they maintain the solutions of the original equation. Students solve systems of two linear equations in two variables and relate the systems to pairs of lines in the plane; these intersect, are parallel, or are the same line. Students use linear equations, systems of linear equations, linear functions, and their understanding of slope of a line to analyze situations and solve problems.

(2) Students grasp the concept of a function as a rule that assigns to each element of its domain exactly one element of its range. They use function notation and understand that functions describe situations where one quantity determines another. They can translate among verbal, tabular, graphical, and algebraic representations of functions (noting that tabular and graphical representations are usually only partial representations), and they describe how aspects of the function are reflected in the different representations.

(3) Students use ideas about distance and angles, how they behave under translations, rotations, reflections, and dilations, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. Students prove that the angles in a triangle add up to a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a transversal cuts parallel lines. Students understand the statement of the Pythagorean Theorem and its converse, and can explain why the Pythagorean Theorem is valid, for example, by decomposing a square in two different ways. They apply the Pythagorean Theorem to find distances between points on the coordinate plane, to find lengths, and to analyze polygons. Students complete their work on volume by solving problems involving cones, cylinders, and spheres.

Grade Level Overview

The Number System	• Know that there are numbers that are not rational, and approximate them by rational numbers.
Expressions and Equations	• Work with radicals and integer exponents. • Understand the connections between proportional relationships, lines, and linear equations. • Analyze and solve linear equations and pairs of simultaneous linear equations.
Functions	• Define, evaluate, and compare functions. • Use functions to model relationships between quantities.
Geometry	• Understand congruence and similarity using physical models, transparencies, or geometry software. • Understand and apply the Pythagorean Theorem. • Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.
Statistics and Probability	• Investigate patterns of association in bivariate data.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

The Number System 8.NS

Know that there are numbers that are not rational, and approximate them by rational numbers.

1. Understand informally that every number has a decimal expansion; the rational numbers are those with decimal expansions that terminate in 0s or eventually repeat. Know that other numbers are called irrational.
2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). *For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*

Expressions and Equations 8.EE

Work with radicals and integer exponents.

1. Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.
2. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.

Understand the connections between proportional relationships, lines, and linear equations.

3. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.*
4. Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.

Analyze and solve linear equations and pairs of simultaneous linear equations.

5. Solve linear equations in one variable.
   a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).
   b. Solve linear equations with rational number coefficients, including equations that require expanding expressions using the distributive property and collecting like terms.
6. Analyze and solve pairs of simultaneous linear equations.
   a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.
   b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. *For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.*
   c. Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.*

Functions 8.F

Define, evaluate, and compare functions.

1. Understand that a function from one set (called the domain) to another set (called the range) is a rule that assigns to each element of the domain (an input) exactly one element of the range (the corresponding output). The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.[3]
2. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.*

[3] Function notation is not required in Grade 8.

3. Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.*

Use functions to model relationships between quantities.

4. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship; from two (x, y) values, including reading these from a table; or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
5. Describe qualitatively the functional relationship between two quantities by reading a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

Geometry 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.

1. Verify experimentally the properties of rotations, reflections, and translations:
   a. Lines are taken to lines, and line segments to line segments of the same length.
   b. Angles are taken to angles of the same measure.
   c. Parallel lines are taken to parallel lines.
2. Understand that a plane figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.
3. Describe the effect of dilations, translations, rotations and reflections on figures using coordinates.
4. Understand that a plane figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar figures, describe a sequence that exhibits the similarity between them.
5. Use informal arguments to establish facts about the angle sum and exterior angle of triangles, and about the angles created when parallel lines are cut by a transversal. *For example, arrange three copies of the same triangle so that the three angles appear to form a line, and give an argument in terms of transversals why this is so.*

Understand and apply the Pythagorean Theorem.

6. Explain a proof of the Pythagorean Theorem and its converse.
7. Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.
8. Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.

9. Know the formulas for the volume of cones, cylinders and spheres and solve real-world and mathematical problems.

Statistics and Probability 8.SP

Investigate patterns of association in bivariate data.

1. Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.
2. Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
3. Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.*
4. Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*

Mathematics Standards for High School

Where is the College and Career Readiness line drawn?

The high school standards specify the mathematics that all students should study in order to be college and career ready. Additional mathematics that students should learn in order to take advanced courses such as calculus, advanced statistics, or discrete mathematics is indicated by (+), as in this example:

> (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers).

Standards with a (+) symbol are beyond the college and career readiness threshold, but may appear in courses intended for all students. Any standard without a (+) symbol is intended to be in the common mathematics curriculum for all college and career ready students.

How are the high school standards organized?

The high school standards are listed in conceptual categories:

- Number and Quantity
- Algebra
- Functions
- Modeling
- Geometry
- Statistics and Probability.

Conceptual categories portray a coherent view of core high school mathematics; a student's work with functions, for example, crosses a number of traditional course boundaries, potentially up through and including calculus.

Modeling standards

Modeling is best interpreted not as a collection of isolated topics but in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol (*).

Mathematics | High School—Number and Quantity

Numbers and Number Systems. During the years from kindergarten to eighth grade, students must repeatedly extend their conception of number. At first, "number" means "counting number": 1, 2, 3…. Soon after that, 0 is used to represent "none" and the whole numbers are formed by the counting numbers together with zero. The next extension is fractions. At first, fractions are barely numbers and tied strongly to pictorial representations. Yet by the time students understand division of fractions, they have a strong concept of fractions as numbers and have connected them, via their decimal representations, with the base-ten system used to represent the whole numbers. During middle school, fractions are augmented by negative fractions to form the rational numbers. In Grade 8, students extend this system once more, augmenting the rational numbers with the irrational numbers to form the real numbers. In high school, students will be exposed to yet another extension of number, when the real numbers are augmented by the imaginary numbers to form the complex numbers.

This ascent through number systems makes it fair to ask: what does the word *number* mean that it can mean all of these things? One possible answer is that a number is something that can be used to do mathematics: calculate, solve equations, or represent measurements.

With each extension of number, the meanings of addition, subtraction, multiplication, and division are extended. In each new number system—integers, rational numbers, real numbers, and complex numbers—the four operations stay the same in two important ways: They have the commutative, associative, and distributive properties and their new meanings are consistent with their previous meanings. For example, multiplication by a whole number can be interpreted as repeated addition of the multiplicand in extensions of the whole numbers.

Extending the properties of whole-number exponents leads to new and productive notation. For example, properties of whole-number exponents suggest that $(5^{1/3})^3$ should be $5^{(1/3)\cdot 3} = 5^1 = 5$ and that $5^{1/3}$ should be the cube root of 5.

Calculators can provide ways for students to become better acquainted with these new number systems and their notation. They can be used to generate data for numerical experiments, to help understand the workings of matrix, vector, and complex number algebra, and to experiment with non-integer exponents.

Quantities. In their work in measurement up through Grade 8, students primarily measure commonly used attributes such as length, area, and volume. In high school, students encounter a wider variety of units in modeling, e.g., acceleration, currency conversions, derived quantities such as person-hours and heating degree days, social science rates such as per-capita income, and rates in everyday life such as points scored per game or batting averages. They also encounter novel situations in which they themselves must conceive the attributes of interest. For example, to find a good measure of overall highway safety, they might propose measures such as fatalities per year, fatalities per year per driver, or fatalities per vehicle-mile traveled. Such a conceptual process might be called quantification. Quantification is important for science, as when surface area suddenly "stands out" as an important variable in evaporation. Quantification is also important for companies, which must conceptualize relevant attributes and create or choose suitable measures for them.

The Real Number System Quantities The Complex Number System Vector and Matrix Quantities	• Extend the properties of exponents to rational exponents • Classify numbers as rational or irrational • Reason quantitatively and use units to solve problems • Perform arithmetic operations with complex numbers • Represent complex numbers and their operations on the complex plane • Use complex numbers in polynomial identities and equations • Represent and model with vector quantities • Perform operations on vectors • Perform operations on matrices and use matrices in applications		1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.	Mathematical Practices

The Real Number System N-RN

Extend the properties of exponents to rational exponents

1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define* $5^{1/3}$ *to be the cube root of* 5 *because we want* $(5^{1/3})^3 = 5^{(1/3)3}$ *to hold, so* $(5^{1/3})^3$ *must equal* 5.
2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.

Use properties of rational and irrational numbers

3. Explain why sums and products of rational numbers are rational, that the sum of a rational number and an irrational number is irrational, and that the product of a nonzero rational number and an irrational number is irrational.

Quantities* N-Q

Reason quantitatively and use units to solve problems

1. Compare measurements of two quantities of the same type (e.g., two lengths or two weights) expressed in different units to decide which quantity is larger.
2. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
3. Define appropriate quantities for the purpose of descriptive modeling.
4. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

The Complex Number System N-CN

Perform arithmetic operations with complex numbers

1. Know there is a complex number i such that $i^2 = -1$, and every complex number has the form $a + bi$ with a and b real.
2. Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.
3. (+) Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.

Represent complex numbers and their operations on the complex plane

4. (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.
5. (+) Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. *For example,* $(1 - \sqrt{3}i)^3 = 8$ *because* $(1 - \sqrt{3}i)$ *has modulus* 2 *and argument* 120°.
6. (+) Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.

Use complex numbers in polynomial identities and equations

7. Solve quadratic equations with real coefficients that have complex solutions.
8. (+) Extend polynomial identities to the complex numbers. *For example, rewrite* $x^2 + 4$ *as* $(x + 2i)(x - 2i)$.
9. (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.

(+) Vector and Matrix Quantities N-VM

Represent and model with vector quantities.

1. Understand that vector quantities have both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., $\mathbf{v}$, $|\mathbf{v}|$, $||\mathbf{v}||$, v).
2. Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.
3. Solve problems involving velocity and other quantities that can be represented by vectors.★

Perform operations on vectors.

4. Add and subtract vectors.
   a. Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes.
   b. Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum.
   c. Understand that vector subtraction $\mathbf{v} - \mathbf{w}$ is defined as $\mathbf{v} + (-\mathbf{w})$, where $-\mathbf{w}$ is the additive inverse of $\mathbf{w}$, with the same magnitude as $\mathbf{w}$ and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise.
5. Multiply a vector $\mathbf{v}$ by a scalar.
   a. Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as $c(v_x, v_y) = (cv_x, cv_y)$.
   b. Compute the magnitude of a scalar multiple $c\mathbf{v}$ using $||c\mathbf{v}|| = |c|v$.
   c. Understand that when $|c|v \neq 0$, the direction of $c\mathbf{v}$ is either along $\mathbf{v}$ (for $c > 0$) or against $\mathbf{v}$ (for $c < 0$).

Perform operations on matrices and use matrices in applications.★

6. Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.
7. Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled.
8. Add, subtract, and multiply matrices of appropriate dimensions.
9. Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.
10. Understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse.
11. Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector. Understand a matrix as a transformation of vectors.
12. Understand a 2 × 2 matrix as a transformation of the plane, and interpret the absolute value of the determinant in terms of area.

Expressions. An expression is a record of a computation with numbers and symbols that represent numbers, arithmetic operations, exponentiation, and, at more advanced levels, the operation of evaluating a function. Conventions about the use of parentheses and the order of operations assure that each expression is unambiguous. Creating an expression that describes a computation involving a general quantity requires the ability to express the computation in general terms, abstracting from specific instances.

Reading an expression with comprehension involves analysis of its underlying structure. This may suggest a different but equivalent way of writing the expression that exhibits some different aspect of its meaning. For example, $p + 0.05p$ can be interpreted as the addition of a 5% tax to a price p. Rewriting $p + 0.05p$ as $1.05p$ shows that adding a tax is the same as multiplying the price by a constant factor.

Algebraic manipulations are governed by the properties of operations and exponents, and the conventions of algebraic notation. At times, an expression is the result of applying operations to simpler expressions. For example, $p + 0.05p$ is the sum of the simpler expressions p and $0.05p$. Viewing an expression as the result of operation on simpler expressions can sometimes clarify its underlying structure.

A spreadsheet or a computer algebra system can be used to experiment with algebraic expressions, perform complicated algebraic manipulations, and understand how algebraic manipulations behave.

Equations and inequalities. An equation is a statement of equality between two expressions, often viewed as a question asking for which values of the variables the expressions on either side are in fact equal. These values are the solutions to the equation. An identity is true for all numbers; identities are often developed by rewriting an expression in an equivalent form.

The solutions of an equation in one variable form a set of numbers; the solutions of an equation in two variables form a set of ordered pairs of numbers, which can be plotted in the coordinate plane. Two or more equations and/or inequalities form a system. A solution for such a system must satisfy every equation and inequality in the system.

An equation can often be solved by successively deducing from it one or more simpler equations. For example, one can add the same constant to both sides without changing the solutions, but squaring both sides might lead to extraneous solutions. Strategic competence in solving includes looking ahead for productive manipulations and anticipating the nature and number of solutions.

Some equations have no solutions in a given number system, but have a solution in a larger system. For example, the solution of $x + 1 = 0$ is an integer, not a whole number; the solution of $2x + 1 = 0$ is a rational number, not an integer; the solutions of $x^2 - 2 = 0$ are real numbers, not rational numbers; and the solutions of $x^2 + 2 = 0$ are complex numbers, not real numbers.

The same solution techniques used to solve equations can be used to rearrange formulas. For example, the formula for the area of a trapezoid, $A = ((b_1+b_2)/2)h$, can be solved for h using the same deductive process.

Inequalities can be solved by reasoning about the properties of inequality. Many, but not all, of the properties of equality continue to hold for inequalities and can be useful in solving them.

Connections to Functions and Modeling. Expressions can define functions, and equivalent expressions define the same function. Asking when two functions have the same value for the same input leads to an equation; graphing the two functions allows for finding approximate solutions of the equation. Converting a verbal description to an equation, inequality, or system of these is an essential skill in modeling.

Seeing Structure in Expressions Arithmetic with Polynomials and Rational Functions Creating Equations Reasoning with Equations and Inequalities	• Interpret the structure of expressions • Write expressions in equivalent forms to solve problems • Perform arithmetic operations on polynomials • Understand the relationship between zeros and factors of polynomials • Use polynomial identities to solve problems • Rewrite and graph rational functions • Create equations that describe numbers or relationships • Understand solving equations as a process of reasoning and explain the reasoning • Solve equations and inequalities in one variable • Solve systems of equations • Represent and solve equations and inequalities graphically		1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.	Mathematical Practices

Seeing Structure in Expressions A-SSE

Interpret the structure of expressions

1. Interpret expressions that represent a quantity in terms of its context.★
   a. Interpret parts of an expression, such as terms, factors, and coefficients.
   b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret* $P(1+r)^n$ *as the product of P and a factor not depending on P.*
2. Use the structure of an expression to identify ways to rewrite it. *For example, see* $x^4 - y^4$ *as* $(x^2)^2 - (y^2)^2$*, thus recognizing it as a difference of squares that can be factored as* $(x^2 - y^2)(x^2 + y^2)$.

Write expressions in equivalent forms to solve problems

3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.★
   a. Factor a quadratic expression to reveal the zeros of the function it defines.
   b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.
   c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression* 1.15^t *can be rewritten as* $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ *to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*
4. Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. *For example, calculate mortgage payments.*★

Arithmetic with Polynomials and Rational Expressions A-APR

Perform arithmetic operations on polynomials

1. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

Understand the relationship between zeros and factors of polynomials

2. Understand the Remainder Theorem: For a polynomial $p(x)$ and a number a, the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.
3. Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.

Use polynomial identities to solve problems

4. Prove polynomial identities and use them to describe numerical relationships. *For example, the polynomial identity* $(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2$ *can be used to generate Pythagorean triples.*
5. (+) Understand that the Binomial Theorem gives the expansion of $(x + y)^n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle. The Binomial Theorem can be proved by mathematical induction or by a combinatorial argument.

Rewrite rational expressions

6. Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.
7. (+) Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.

Creating Equations* A-CED

Create equations that describe numbers or relationships

1. Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*
2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*
4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law* $V = IR$ *to highlight resistance* R.

Reasoning with Equations and Inequalities A-REI

Understand solving equations as a process of reasoning and explain the reasoning

1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
2. Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

Solve equations and inequalities in one variable

3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. Graph the solution set of an inequality on a number line.
4. Solve quadratic equations in one variable.
   a. Understand that the method of completing the square transforms any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. This leads to the quadratic formula.
   b. Solve by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.

Solve systems of equations

5. Understand that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
7. Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. *For example, find the points of intersection between the line* $y = -3x$ *and the circle* $x^2 + y^2 = 3$.
8. (+) Represent a system of linear equations as a single matrix equation in a vector variable.

9. (+) Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3×3 or greater).

Represent and solve equations and inequalities graphically

10. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a straight line).
11. Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.*
12. Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.

Mathematics | High School—Functions

Functions describe situations where one quantity determines another. For example, the return on $10,000 invested at an annualized percentage rate of 4.25% is a function of the length of time the money is invested. Because we continually make theories about dependencies between quantities in nature and society, functions are important tools in the construction of mathematical models.

In school mathematics, functions usually have numerical inputs and outputs and are often defined by an algebraic expression. For example, the time in hours it takes for a car to drive 100 miles is a function of the car's speed in miles per hour, v; the rule $T(v) = 100/v$ expresses this relationship algebraically and defines a function whose name is T.

The set of inputs to a function is called its domain. We often infer the domain to be all inputs for which the expression defining a function has a value, or for which the function makes sense in a given context.

A function can be described in various ways, such as by a graph (e.g., the trace of a seismograph); by a verbal rule, as in, "I'll give you a state, you give me the capital city;" by an algebraic expression like $f(x) = a + bx$; or by a recursive rule. The graph of a function is often a useful way of visualizing the relationship of the function models, and manipulating a mathematical expression for a function can throw light on the function's properties.

Functions presented as expressions can model many important phenomena. Two important families of functions characterized by laws of growth are linear functions, which grow at a constant rate, and exponential functions, which grow at a constant percent rate. Linear functions with a constant term of zero describe proportional relationships.

A graphing utility or a computer algebra system can be used to experiment with properties of these functions and their graphs and to build computational models of functions, including recursively defined functions.

Connections to Expressions, Equations, Modeling, and Coordinates. Determining an output value for a particular input involves evaluating an expression; finding inputs that yield a given output involves solving an equation. Questions about when two functions have the same value for the same input lead to equations, whose solutions can be visualized from the intersection of their graphs. Because functions describe relationships between quantities, they are frequently used in modeling. Sometimes functions are defined by a recursive process, which can be displayed effectively using a spreadsheet or other technology.

Interpreting Functions Building Functions Linear, Quadratic, and Exponential Models Trigonometric Functions	• Understand the concept of a function and use function notation • Interpret functions that arise in applications in terms of the context • Analyze functions using different representations • Build a function that models a relationship between two quantities • Build new functions from existing functions • Construct and compare linear and exponential models and solve problems • Interpret expressions for functions in terms of the situation they model • Extend the domain of trigonometric functions using the unit circle • Model periodic phenomena with trigonometric functions • Prove and apply trigonometric identities		1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.	Mathematical Practices

Interpreting Functions F-IF

Understand the concept of a function and use function notation

1. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.
2. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
3. Understand that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. *For example, the Fibonacci sequence is defined recursively by $f(0) = f(1) = 1$, $f(n+1) = f(n) + f(n-1)$ for $n \geq 1$.*

Interpret functions that arise in applications in terms of the context

4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*★
5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*★
6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.★

Analyze functions using different representations

7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★
   a. Graph linear and quadratic functions and show intercepts, maxima, and minima.
   b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
   c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.
   d. (+) Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.
   e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.
8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.
   a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.
   b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as* $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, *and classify them as representing exponential growth or decay.*
9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*

Building Functions F-BF

Build a function that models a relationship between two quantities

1. Write a function that describes a relationship between two quantities.★
   a. Determine an explicit expression, a recursive process, or steps for calculation from a context.
   b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.*
   c. (+) Compose functions. *For example, if f(t) is the height of a falling body after t seconds, f(t − 12) is the height of the same body dropped 12 seconds later.*
2. Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.★

Build new functions from existing functions

3. Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*
4. Find inverse functions.
   a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. *For example,* $f(x) = 2x^3$ *or* $f(x) = (x+1)/(x-1)$ *for* $x \neq 1$.
   b. (+) Verify by composition that one function is the inverse of another.
   c. (+) Read values of an inverse function from a graph or a table, given that the function has an inverse.
   d. (+) Produce an invertible function from a non-invertible function by restricting the domain.

Linear, Quadratic, and Exponential Models* F-LQE

Construct and compare linear, quadratic, and exponential models and solve problems

1. Distinguish between situations that can be modeled with linear functions and with exponential functions.
   a. Understand that linear functions grow by equal differences over equal intervals; exponential functions grow by equal factors over equal intervals.
   b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.
   c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.
2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).

3. Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.
4. For exponential models, express as a logarithm the solution to $a\,b^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.

Interpret expressions for functions in terms of the situation they model

5. Interpret the parameters in a linear, quadratic, or exponential function in terms of a context.

Trigonometric Functions F-TF

Extend the domain of trigonometric functions using the unit circle

1. Understand that the radian measure of an angle is the length of the arc on the unit circle subtended by the angle.
2. Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.
3. (+) Use special triangles to determine geometrically the values of sine, cosine, tangent for $\pi/3$, $\pi/4$ and $\pi/6$, and use the unit circle to express the values of sine, cosine, and tangent for $\pi - x$, $\pi + x$, and $2\pi - x$ in terms of their values for x, where x is any real number.
4. (+) Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.

Model periodic phenomena with trigonometric functions

5. Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.★
6. (+) Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.
7. (+) Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.★

Prove and apply trigonometric identities

8. Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to calculate trigonometric ratios.
9. (+) Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.

Mathematics | High School—Modeling

Modeling links classroom mathematics and statistics to everyday life, work, and decision-making. Modeling is the process of choosing and using appropriate mathematics and statistics to analyze empirical situations, to understand them better, and to improve decisions. Quantities and their relationships in physical, economic, public policy, social, and everyday situations can be modeled using mathematical and statistical methods. When making mathematical models, technology is valuable for varying assumptions, exploring consequences, and comparing predictions with data.

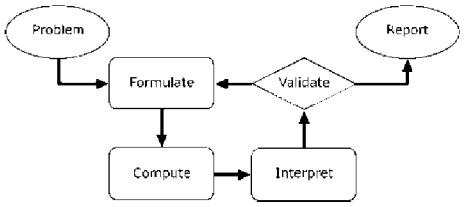
A model can be very simple, such as writing total cost as a product of unit price and number bought, or using a geometric shape to describe a physical object like a coin. Even such simple models involve making choices. It is up to us whether to model a coin as a three-dimensional cylinder, or whether a two-dimensional disk works well enough for our purposes. Other situations—modeling a delivery route, a production schedule, or a comparison of loan amortizations—need more elaborate models that use other tools from the mathematical sciences. Real-world situations are not organized and labeled for analysis; formulating tractable models, representing such models, and analyzing them is appropriately a creative process. Like every such process, this depends on acquired expertise as well as creativity.

Some examples of such situations might include:

- Estimating how much water and food is needed for emergency relief in a devastated city of 3 million people, and how it might be distributed.
- Planning a table tennis tournament for 7 players at a club with 4 tables, where each player plays against each other player.
- Designing the layout of the stalls in a school fair so as to raise as much money as possible.
- Analyzing stopping distance for a car.
- Modeling savings account balance, bacterial colony growth, or investment growth.
- Critical path analysis, e.g., applied to turnaround of an aircraft at an airport.
- Risk situations, such as extreme sports, pandemics, and terrorism.
- Relating population statistics to individual predictions.

In situations like these, the models devised depend on a number of factors: How precise an answer do we want or need? What aspects of the situation do we most need to understand, control, or optimize? What resources of time and tools do we have? The range of models that we can create and analyze is also constrained by the limitations of our mathematical, statistical, and technical skills, and our ability to recognize significant variables and relationships among them. Diagrams of various kinds, spreadsheets and other technology, and algebra are powerful tools for understanding and solving problems drawn from different types of real-world situations.

One of the insights provided by mathematical modeling is that essentially the same mathematical or statistical structure can sometimes model seemingly different situations. Models can also shed light on the mathematical structures themselves, for example, as when a model of bacterial growth makes more vivid the explosive growth of the exponential function.



The basic modeling cycle is summarized in the diagram. It involves (1) identifying variables in the situation and selecting those that represent essential features, (2) formulating a model by creating and selecting geometric, graphical, tabular, algebraic, or statistical representations that describe relationships between the variables, (3) analyzing and performing operations on these relationships to draw conclusions, (4) interpreting the results of the mathematics in terms of the original situation, (5) validating the conclusions by comparing them with the situation, and then either improving the model or, if it is acceptable, (6) reporting on the conclusions and the reasoning behind them. Choices, assumptions, and approximations are present throughout this cycle.

In descriptive modeling, a model simply describes the phenomena or summarizes them in a compact form. Graphs of observations are a familiar descriptive model—for example, graphs of global temperature and atmospheric CO_2 over time.

Analytic modeling seeks to explain data on the basis of deeper theoretical ideas, albeit with parameters that are empirically based; for example, exponential growth of bacterial colonies (until cut-off mechanisms such as pollution or starvation intervene) follows from a constant reproduction rate. Functions are an important tool for analyzing such problems.

Graphing utilities, spreadsheets, computer algebra systems, and dynamic geometry software are powerful tools that can be used to model purely mathematical phenomena (e.g., the behavior of polynomials) as well as physical phenomena.

Modeling Standards

Modeling is best interpreted not as a collection of isolated topics but rather in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol (⋆).

Mathematics | High School—Geometry

An understanding of the attributes and relationships of geometric objects can be applied in diverse contexts—interpreting a schematic drawing, estimating the amount of wood needed to frame a sloping roof, rendering computer graphics, or designing a sewing pattern for the most efficient use of material.

Although there are many types of geometry, school mathematics is devoted primarily to plane Euclidean geometry, studied both synthetically (without coordinates) and analytically (with coordinates). Euclidean geometry is characterized most importantly by the Parallel Postulate, that through a point not on a given line there is exactly one parallel line. (Spherical geometry, in contrast, has no parallel lines.)

During high school, students begin to formalize their geometry experiences from elementary and middle school, using more precise definitions and developing careful proofs. Later in college some students develop Euclidean and other geometries carefully from a small set of axioms.

The concepts of congruence, similarity, and symmetry can be understood from the perspective of geometric transformation. Fundamental are the rigid motions: translations, rotations, reflections, and combinations of these, all of which are here assumed to preserve distance and angles (and therefore shapes generally). Reflections and rotations each explain a particular type of symmetry, and the symmetries of an object offer insight into its attributes—as when the reflective symmetry of an isosceles triangle assures that its base angles are congruent.

In the approach taken here, two geometric figures are defined to be congruent if there is a sequence of rigid motions that carries one onto the other. This is the principle of superposition. For triangles, congruence means the equality of all corresponding pairs of sides and all corresponding pairs of angles. During Grade 8, through experiences with geometric constructions and drawing triangles from given conditions, some students notice ways to specify enough measures in a triangle to ensure that all triangles drawn with those measures are congruent. Once these triangle congruence criteria (ASA, SAS, and SSS) are established using rigid motions, they can be used to prove theorems about triangles, quadrilaterals, and other geometric figures.

Similarity transformations (rigid motions followed by dilations) define similarity in the same way that rigid motions define congruence, and lead to the criterion for triangle similarity that two pairs of corresponding angles are congruent.

The definitions of sine, cosine, and tangent for acute angles are founded on right triangles and similarity, and, with the Pythagorean Theorem, are fundamental in many real-world and theoretical situations. The Pythagorean Theorem is generalized to non-right triangles by the Law of Cosines. Together, the Laws of Sines and Cosines embody the triangle congruence criteria for the cases where three pieces of information suffice to completely solve a triangle. Furthermore, these laws yield two possible solutions in the ambiguous case, illustrating that Side-Side-Angle is not a congruence criterion.

Analytic geometry connects algebra and geometry, resulting in powerful methods of analysis and problem solving. Just as the number line associates numbers with locations in one dimension, a pair of perpendicular axes associates pairs of numbers with locations in two dimensions. This correspondence between numerical coordinates and geometric points allows methods from algebra to be applied to geometry and vice versa. The solution set of an equation becomes a geometric curve, making visualization a tool for doing and understanding algebra. Geometric shapes can be described by equations, making algebraic manipulation into a tool for geometric understanding, modeling, and proof. Geometric transformations of the graphs of equations correspond to algebraic changes in their equations.

Dynamic geometry environments provide students with experimental and modeling tools that allow them to investigate geometric phenomena in much the same way as computer algebra systems allow them to experiment with algebraic phenomena.

Connections to Equations. The correspondence between numerical coordinates and geometric points allows methods from algebra to be applied to geometry and vice versa. The solution set of an equation becomes a geometric curve, making visualization a tool for doing and understanding algebra. Geometric shapes can be described by equations, making algebraic manipulation into a tool for geometric understanding, modeling, and proof.

Content Overview

Congruence Similarity, Right Triangles, and Trigonometry Circles Expressing Geometric Properties with Equations Geometric Measurement and Dimension Modeling with Geometry	• Experiment with transformations in the plane • Understand congruence in terms of rigid motions • Prove geometric theorems • Make geometric constructions • Understand similarity in terms of similarity transformations • Prove theorems involving similarity • Define trigonometric ratios and solve problems involving right triangles • Apply trigonometry to general triangles • Understand and apply theorems about circles • Find arc lengths and areas of sectors of circles • Translate between the geometric description and the equation for a conic section • Use coordinates to prove simple geometric theorems algebraically • Explain volume formulas and use them to solve problems • Visualize relationships between two-dimensional and three-dimensional objects • Apply geometric concepts in modeling situations		1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.	Mathematical Practices

Congruence G-CO

Experiment with transformations in the plane

1. Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
2. Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).
3. Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
4. Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
5. Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.

Understand congruence in terms of rigid motions

6. Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.
7. Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
8. Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.

Prove geometric theorems

9. Prove theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.*
10. Prove theorems about triangles. *Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.*
11. Prove theorems about parallelograms. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*

Make geometric constructions

12. Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.*
13. Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.

Similarity, Right Triangles, and Trigonometry G-SRT

Understand similarity in terms of similarity transformations

1. Verify experimentally the properties of dilations:
   a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.
   b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.
2. Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
3. Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.

Prove theorems involving similarity

4. Prove theorems about triangles using similarity transformations. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*
5. Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.

Define trigonometric ratios and solve problems involving right triangles

6. Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.
7. Explain and use the relationship between the sine and cosine of complementary angles.
8. Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.★

(+) **Apply trigonometry to general triangles**

9. Derive the formula $A = \frac{1}{2} ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.
10. Prove the Laws of Sines and Cosines and use them to solve problems.
11. Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).

Circles G-C

Understand and apply theorems about circles

1. Prove that all circles are similar.

2. Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.*
3. Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.
4. (+) Construct a tangent line from a point outside a given circle to the circle.

Find arc lengths and areas of sectors of circles

5. Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.

Expressing Geometric Properties with Equations G-GPE

Translate between the geometric description and the equation for a conic section

1. Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
2. Derive the equation of a parabola given a focus and directrix.
3. (+) Derive the equations of ellipses and hyperbolas given two foci for the ellipse, and two directrices of a hyperbola.

Use coordinates to prove simple geometric theorems algebraically

4. Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, $\sqrt{3}$) lies on the circle centered at the origin and containing the point (0, 2).*
5. Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).
6. Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
7. Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.*

Geometric Measurement and Dimension G-GMD

Explain volume formulas and use them to solve problems

1. Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.*
2. (+) Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.
3. Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.*

Visualize relationships between two-dimensional and three-dimensional objects

4. Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.

Modeling with Geometry G-MG

Apply geometric concepts in modeling situations

1. Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).*
2. Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).*
3. Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).*

Mathematics | High School—Statistics and Probability*

Decisions or predictions are often based on data—numbers in context. These decisions or predictions would be easy if the data always sent a clear message, but the message is often obscured by variability. Statistics provides tools for describing variability in data and for making informed decisions that take it into account.

Data are gathered, displayed, summarized, examined, and interpreted to discover patterns and deviations from patterns. Quantitative data can be described in terms of key characteristics: measures of shape, center, and spread. The shape of a data distribution might be described as symmetric, skewed, flat, or bell shaped, and it might be summarized by a statistic measuring center (such as mean or median) and a statistic measuring spread (such as standard deviation or interquartile range). Different distributions can be compared numerically using these statistics or compared visually using plots. Knowledge of center and spread are not enough to describe a distribution. Which statistics to compare, which plots to use, and what the results of a comparison might mean, depend on the question to be investigated and the real-life actions to be taken.

Randomization has two important uses in drawing statistical conclusions. First, collecting data from a random sample of a population makes it possible to draw valid conclusions about the whole population, taking variability into account. Second, randomly assigning individuals to different treatments allows a fair comparison of the effectiveness of those treatments. A statistically significant outcome is one that is unlikely to be due to chance alone, and this can be evaluated only under the condition of randomness. The conditions under which data are collected are important in drawing conclusions from the data; in critically reviewing uses of statistics in public media and other reports, it is important to consider the study design, how the data were gathered, and the analyses employed as well as the data summaries and the conclusions drawn.

Random processes can be described mathematically by using a probability model: a list or description of the possible outcomes (the sample space), each of which is assigned a probability. In situations such as flipping a coin, rolling a number cube, or drawing a card, it might be reasonable to assume various outcomes are equally likely. In a probability model, sample points represent outcomes and combine to make up events; probabilities of events can be computed by applying the Addition and Multiplication Rules. Interpreting these probabilities relies on an understanding of independence and conditional probability, which can be approached through the analysis of two-way tables.

Technology plays an important role in statistics and probability by making it possible to generate plots, regression functions, and correlation coefficients, and to simulate many possible outcomes in a short amount of time.

Connections to Functions and Modeling. Functions may be used to describe data; if the data suggest a linear relationship, the relationship can be modeled with a regression line, and its strength and direction can be expressed through a correlation coefficient.

Interpreting Categorical and Quantitative Data	• Summarize, represent, and interpret data on a single count or measurement variable • Summarize, represent, and interpret data on two categorical and quantitative variables • Interpret linear models		1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.	Mathematical Practices
Making Inferences and Justifying Conclusions	• Understand and evaluate random processes underlying statistical experiments • Make inferences and justify conclusions from sample surveys, experiments and observational studies			
Conditional Probability and the Rules of Probability	• Use the concepts of independence and conditional probability to interpret data • Use the rules of probability to compute probabilities of compound events in a uniform probability model			
Using Probability to Make Decisions	• Calculate expected values and use them to solve problems • Use probability to evaluate outcomes of decisions			

Interpreting Categorical and Quantitative Data S-ID

Summarize, represent, and interpret data on a single count or measurement variable

1. Represent data with plots on the real number line (dot plots, histograms, and box plots).
2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.
3. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
4. Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.

Summarize, represent, and interpret data on two categorical and quantitative variables

5. Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.
6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.
    a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear and exponential models.*
    b. Informally assess the fit of a function by plotting and analyzing residuals.
    c. Fit a linear function for scatter plots that suggest a linear association.

Interpret linear models

7. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.

8. Compute (using technology) and interpret the correlation coefficient of a linear fit.
9. Distinguish between correlation and causation.

Making Inferences and Justifying Conclusions S-IC

Understand and evaluate random processes underlying statistical experiments

1. Understand that statistics allows inferences to be made about population parameters based on a random sample from that population.
2. Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. *For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?*

Make inferences and justify conclusions from sample surveys, experiments, and observational studies

3. Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.
4. Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.
5. Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.
6. Evaluate reports based on data.

Conditional Probability and the Rules of Probability S-CP

Understand independence and conditional probability and use them to interpret data

1. Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").
2. Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.
3. Understand the conditional probability of A given B as P(A and B)/P(B), and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.
4. Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.*
5. Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. *For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.*

Use the rules of probability to compute probabilities of compound events in a uniform probability model

6. Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model.
7. Apply the Addition Rule, P(A or B) = P(A) + P(B) – P(A and B), and interpret the answer in terms of the model.
8. (+) Apply the general Multiplication Rule in a uniform probability model, P(A and B) = P(A)P(B|A) = P(B)P(A|B), and interpret the answer in terms of the model.
9. (+) Use permutations and combinations to compute probabilities of compound events and solve problems.

(+) Using Probability to Make Decisions S-MD

Calculate expected values and use them to solve problems

1. Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions.
2. Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.
3. Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. *For example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.*
4. Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. *For example, find a current data distribution on the number of TV sets per household in the*

United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?

Use probability to evaluate outcomes of decisions

5. Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values.
   a. Find the expected payoff for a game of chance. *For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant.*
   b. Evaluate and compare strategies on the basis of expected values. *For example, compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.*
6. Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).
7. Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).

Postscript: A Note on High School Courses

The high school standards in this document do not specify how content should be organized into a sequence of high school courses.

However, it is expected that model course sequences based on these standards will become available in both a traditional sequence (Algebra 1, Geometry, and Algebra 2) as well as an integrated sequence (Integrated 1, Integrated 2, Integrated 3).

Glossary

Addition and subtraction within 5, 10, 20, 100, or 1000. Addition or subtraction of two whole numbers with whole number answers, and with sum or minuend in the range 0-5, 0-10, 0-20, or 0-100, respectively. Example: $8 + 2 = 10$ is an addition within 10, $14 - 5 = 9$ is a subtraction within 20, and $55 - 18 = 37$ is a subtraction within 100.

Additive inverses. Two numbers whose sum is 0 are additive inverses of one another. Example: $3/4$ and $-3/4$ are additive inverses of one another because $3/4 + (-3/4) = (-3/4) + 3/4 = 0$.

Associative property of addition. See Table 3 in this Glossary.

Associative property of multiplication. See Table 3 in this Glossary.

Bivariate data. Pairs of linked numerical observations. Example: a list of heights and weights for each player on a football team.

Box plot. A method of visually displaying a distribution of data values by using the median, quartiles, and extremes of the data set. A box shows the middle 50% of the data.[1]

Commutative property. See Table 3 in this Glossary.

Complex fraction. A fraction A/B where A and/or B are fractions (B nonzero).

Computation algorithm. A set of predefined steps applicable to a class of problems that gives the correct result in every case when the steps are carried out correctly. See also: *computation strategy*.

Computation strategy. Purposeful manipulations that may be chosen for specific problems, may not have a fixed order, and may be aimed at converting one problem into another. See also: *computation algorithm*.

Congruent. Two plane or solid figures are congruent if one can be obtained from the other by rigid motion (a sequence of rotations, reflections, and translations).

Counting on. A strategy for finding the number of objects in a group without having to count every member of the group. For example, if a stack of books is known to have 8 books and 3 more books are added to the top, it is not necessary to count the stack all over again; one can find the total by *counting on*—pointing to the top book and saying "eight," following this with "nine, ten, eleven. There are eleven books now."

Dot plot. *See line plot.*

Dilation. A transformation that moves each point along the ray through the point emanating from a fixed center, and multiplies distances from the center by a common scale factor.

Expanded form. A multidigit number is expressed in expanded form when it is written as a sum of single-digit multiples of powers of ten. For example, $643 = 600 + 40 + 3$.

Expected value. For a random variable, the weighted average of its possible values, with weights given by their respective probabilities.

First quartile. For a data set with median M, the first quartile is the median of the data values less than M. Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the first quartile is 6.[2] *See also* median, third quartile, interquartile range.

Fraction. A number expressible in the form a/b where a is a whole number and b is a positive whole number. (The word *fraction* in these standards always refers to a nonnegative number.) *See also* rational number.

Identity property of 0. See Table 3 in this Glossary.

Independently combined probability models. Two probability models are said to be combined independently if the probability of each ordered pair in the combined model equals the product of the original probabilities of the two individual outcomes in the ordered pair.

Integer. A number expressible in the form a or $-a$ for some whole number a.

Interquartile Range. A measure of variation in a set of numerical data, the interquartile range is the distance between the first and third quartiles of the data set. Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the interquartile range is $15 - 6 = 9$. *See also* first quartile, third quartile.

Line plot. A method of visually displaying a distribution of data values where each data value is shown as a dot or mark above a number line. Also known as a dot plot.[3]

Mean. A measure of center in a set of numerical data, computed by adding the values in a list and then dividing by the number of values in the list.[4] Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the mean is 21.

Mean absolute deviation. A measure of variation in a set of numerical data, computed by adding the distances between each data value and the mean, then dividing by the number of data values. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the mean absolute deviation is 20.

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[1] Adapted from Wisconsin Department of Public Instruction, http://dpi.wi.gov/standards/mathglos.html, accessed March 2, 2010.

[2] Many different methods for computing quartiles are in use. The method defined here is sometimes called the Moore and McCabe method. See Langford, E., "Quartiles in Elementary Statistics," *Journal of Statistics Education* Volume 14, Number 3 (2006),

[3] Adapted from Wisconsin Department of Public Instruction, *op. cit.*

[4] To be more precise, this defines the *arithmetic mean*.

Median. A measure of center in a set of numerical data. The median of a list of values is the value appearing at the center of a sorted version of the list—or the mean of the two central values, if the list contains an even number of values. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 90}, the median is 11.

Midline. In the graph of a trigonometric function, the horizontal line half-way between its maximum and minimum values.

Multiplication and division within 100. Multiplication or division of two whole numbers with whole number answers, and with product or dividend in the range 0-100. Example: $72 \div 8 = 9$.

Multiplicative inverses. Two numbers whose product is 1 are multiplicative inverses of one another. Example: $3/4$ and $4/3$ are multiplicative inverses of one another because $3/4 \times 4/3 = 4/3 \times 3/4 = 1$.

Number line diagram. A diagram of the number line used to represent numbers and support reasoning about them. In a number line diagram for measurement quantities, the interval from 0 to 1 on the diagram represents the unit of measure for the quantity.

Percent rate of change. A rate of change expressed as a percent. Example: if a population grows from 50 to 55 in a year, it grows by 5/50 = 10% per year.

Probability distribution. The set of possible values of a random variable with a probability assigned to each.

Properties of operations. See Table 3 in this Glossary.

Properties of equality. See Table 4 in this Glossary.

Properties of inequality. See Table 5 in this Glossary.

Properties of operations. See Table 3 in this Glossary.

Probability. A number between 0 and 1 used to quantify likelihood for processes that have uncertain outcomes (such as tossing a coin, selecting a person at random from a group of people, tossing a ball at a target, testing for a medical condition).

Probability model. A probability model is used to assign probabilities to outcomes of a chance process by examining the nature of the process. The set of all outcomes is called the sample space, and their probabilities sum to 1. See also *uniform probability model*.

Random variable. An assignment of a numerical value to each outcome in a sample space.

Rational expression. A quotient of two polynomials with non-zero denomiator.

Rational number. A number expressible in the form a/b or $-a/b$ for some fraction a/b. The rational numbers include the integers.

Rectilinear figure. A polygon all angles of which are right angles.

Rigid motion. A transformation of points in space consisting of a sequence of one or more translations, reflections, and/or rotations. Rigid motions are here assumed to preserve distances and angle measures.

Repeating decimal. The decimal form of a rational number. See *terminating decimal*.

Sample space. In a probability model for a random process, a list of the individual outcomes that are to be considered.

Scatter plot. A graph in the coordinate plane representing a set of bivariate data. For example, the heights and weights of a group of people could be displayed on a scatter plot.[5]

Similarity transformation. A rigid motion followed by a dilation.

Tape diagram. A drawing that looks like a segment of tape, used to illustrate number relationships. Also known as a strip diagram, bar model, fraction strip, or length model.

Terminating decimal. A decimal is called terminating if its repeating digit is 0.

Third quartile. For a data set with median M, the third quartile is the median of the data values greater than M. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the third quartile is 15. *See also* median, first quartile, interquartile range.

Transitivity principle for indirect measurement. If the length of object A is greater than the length of object B, and the length of object B is greater than the length of object C, then the length of object A is greater than the length of object C. This principle applies to measurement of other quantities as well.

Uniform probability model. A probability model which assigns equal probability to all outcomes. See also *probability model*.

Vector. A quantity with magnitude and direction in the plane or in space, defined by an ordered pair or triple of real numbers.

Visual fraction model. A tape diagram, number line diagram, or area model.

Whole numbers. The numbers 0, 1, 2, 3, ….

[5] Adapted from Wisconsin Department of Public Instruction, *op. cit*.

TABLE 1. Common addition and subtraction situations.[6]

	Result Unknown	Change Unknown	Start Unknown
Add to	Two bunnies sat on the grass. Three more bunnies hopped there. How many bunnies are on the grass now? 2 + 3 = ?	Two bunnies were sitting on the grass. Some more bunnies hopped there. Then there were five bunnies. How many bunnies hopped over to the first two? 2 + ? = 5	Some bunnies were sitting on the grass. Three more bunnies hopped there. Then there were five bunnies. How many bunnies were on the grass before? ? + 3 = 5
Take from	Five apples were on the table. I ate two apples. How many apples are on the table now? 5 2 = ?	Five apples were on the table. I ate some apples. Then there were three apples. How many apples did I eat? 5 ? = 3	Some apples were on the table. I ate two apples. Then there were three apples. How many apples were on the table before? ? 2 = 3

	Total Unknown	Addend Unknown	Both Addends Unknown[7]
Put Together/ Take Apart[8]	Three red apples and two green apples are on the table. How many apples are on the table? 3 + 2 = ?	Five apples are on the table. Three are red and the rest are green. How many apples are green? 3 + ? = 5, 5 3 = ?	Grandma has five flowers. How many can she put in her red vase and how many in her blue vase? 5 = 0 + 5, 5 = 5 + 0 5 = 1 + 4, 5 = 4 + 1 5 = 2 + 3, 5 = 3 + 2

	Difference Unknown	Bigger Unknown	Smaller Unknown
Compare[9]	("How many more?" version): Lucy has two apples. Julie has five apples. How many more apples does Julie have than Lucy? ("How many fewer?" version): Lucy has two apples. Julie has five apples. How many fewer apples does Lucy have than Julie? 2 + ? = 5, 5 2 = ?	(Version with "more"): Julie has three more apples than Lucy. Lucy has two apples. How many apples does Julie have? (Version with "fewer"): Lucy has 3 fewer apples than Julie. Lucy has two apples. How many apples does Julie have? 2 + 3 = ?, 3 + 2 = ?	(Version with "more"): Julie has three more apples than Lucy. Julie has five apples. How many apples does Lucy have? (Version with "fewer"): Lucy has 3 fewer apples than Julie. Julie has five apples. How many apples does Lucy have? 5 3 = ?, ? + 3 = 5

[6] Adapted from Box 2-4 of National Research Council (2009, op. cit., pp. 32, 33).

[7] These *take apart* situations can be used to show all the decompositions of a given number. The associated equations, which have the total on the left of the equal sign, help children understand that the = sign does not always mean *makes* or *results in* but always does mean *is the same number as*.

[8] Either addend can be unknown, so there are three variations of these problem situations. Both Addends Unknown is a productive extension of this basic situation especially for small numbers less than or equal to 10.

[9] For the Bigger Unknown or Smaller Unknown situations, one version directs the correct operation (the version using *more* for the bigger unknown and using *less* for the smaller unknown). The other versions are more difficult.

TABLE 2. Common multiplication and division situations.[10]

	Unknown Product	**Group Size Unknown** ("How many in each group?" Division)	**Number of Groups Unknown** ("How many groups?" Division)
	3 × 6 = ?	**3 × ? = 18 and 18 ÷ 3 = ?**	**? × 6 = 18 and 18 ÷ 6 = ?**
Equal Groups	There are 3 bags with 6 plums in each bag. How many plums are there in all? *Measurement example.* You need 3 lengths of string, each 6 inches long. How much string will you need altogether?	If 18 plums are shared equally into 3 bags, then how many plums will be in each bag? *Measurement example.* You have 18 inches of string, which you will cut into 3 equal pieces. How long will each piece of string be?	If 18 plums are to be packed 6 to a bag, then how many bags are needed? *Measurement example.* You have 18 inches of string, which you will cut into pieces that are 6 inches long. How many pieces of string will you have?
Arrays,[11] Area[12]	There are 3 rows of apples with 6 apples in each row. How many apples are there? *Area example.* What is the area of a 3 cm by 6 cm rectangle?	If 18 apples are arranged into 3 equal rows, how many apples will be in each row? *Area example.* A rectangle has area 18 square centimeters. If one side is 3 cm long, how long is a side next to it?	If 18 apples are arranged into equal rows of 6 apples, how many rows will there be? *Area example.* A rectangle has area 18 square centimeters. If one side is 6 cm long, how long is a side next to it?
Compare	A blue hat costs $6. A red hat costs 3 times as much as the blue hat. How much does the red hat cost? *Measurement example.* A rubber band is 6 cm long. How long will the rubber band be when it is stretched to be 3 times as long?	A red hat costs $18 and that is 3 times as much as a blue hat costs. How much does a blue hat cost? *Measurement example.* A rubber band is stretched to be 18 cm long and that is 3 times as long as it was at first. How long was the rubber band at first?	A red hat costs $18 and a blue hat costs $6. How many times as much does the red hat cost as the blue hat? *Measurement example.* A rubber band was 6 cm long at first. Now it is stretched to be 18 cm long. How many times as long is the rubber band now as it was at first?
General	$a \times b = ?$	$a \times ? = p$ and $p \div a = ?$	$? \times b = p$ and $p \div b = ?$

[10] The first examples in each cell are examples of discrete things. These are easier for students and should be given before the measurement examples.
[11] The language in the array examples shows the easiest form of array problems. A harder form is to use the terms rows and columns: The apples in the grocery window are in 3 rows and 6 columns. How many apples are in there? Both forms are valuable.
[12] Area involves arrays of squares that have been pushed together so that there are no gaps or overlaps, so array problems include these especially important measurement situations.

TABLE 3. The properties of operations. Here a, b and c stand for arbitrary numbers in a given number system. The properties of operations apply to the rational number system, the real number system, and the complex number system.

Associative property of addition	$(a + b) + c = a + (b + c)$
Commutative property of addition	$a + b = b + a$
Additive identity property of 0	$a + 0 = 0 + a = a$
Existence of additive inverses	For every a there exists $-a$ so that $a + (-a) = (-a) + a = 0$.
Associative property of multiplication	$(a \times b) \times c = a \times (b \times c)$
Commutative property of multiplication	$a \times b = b \times a$
Multiplicative identity property of 1	$a \times 1 = 1 \times a = a$
Existence of multiplicative inverses	For every $a \neq 0$ there exists $1/a$ so that $a \times 1/a = 1/a \times a = 1$.
Distributive property of multiplication over addition	$a \times (b + c) = a \times b + a \times c$

TABLE 4. The properties of equality. Here a, b and c stand for arbitrary numbers in the rational, real, or complex number systems.

Reflexive property of equality	$a = a$
Symmetric property of equality	If $a = b$, then $b = a$.
Transitive property of equality	If $a = b$ and $b = c$, then $a = c$.
Addition property of equality	If $a = b$, then $a + c = b + c$.
Subtraction property of equality	If $a = b$, then $a - c = b - c$.
Multiplication property of equality	If $a = b$, then $a \times c = b \times c$.
Division property of equality	If $a = b$ and $c \neq 0$, then $a \div c = b \div c$.
Substitution property of equality	If $a = b$, then b may be substituted for a in any expression containing a.

TABLE 5. The properties of inequality. Here a, b and c stand for arbitrary numbers in the rational or real number systems.

Exactly one of the following is true: $a < b$, $a = b$, $a > b$.
If $a > b$ and $b > c$ then $a > c$.
If $a > b$, then $b < a$.
If $a > b$, then $-a < -b$.
If $a > b$, then $a \pm c > b \pm c$.
If $a > b$ and $c > 0$, then $a \times c > b \times c$.
If $a > b$ and $c < 0$, then $a \times c < b \times c$.
If $a > b$ and $c > 0$, then $a \div c > b \div c$.
If $a > b$ and $c < 0$, then $a \div c < b \div c$.

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Smarter Balance Assessment Consortium
Document of Commitment

Please sign and return by April 15, 2010 to
Tony Alpert, Director of Assessment, Oregon Department of Education

Email as PDF attachment to: Tony.Alpert@ode.state.or.us , or
Fax: 503-378-5156

The Document of Commitment may be returned after April 15, allowing a state to begin to participate as a voting Member State from the date of commitment. Signature on this document indicates support of decisions made prior to Consortia receipt of this document.

Complete descriptions of the responsibilities and time commitments of various levels of consortium governance are provided in the Governance Structure document. This initial governance structure refers to the *proposal process only.* Governance structure will be revised after proposal acceptance to reflect long-term needs during the grant implementation period.

State Name: Missouri

Please indicate which governance levels are of interest to your state at this time.

☐ **Member State** – May also sign as member state for other consortia, may participate in setting general direction, may vote on selected issues.

■ **Governing State** – May only sign with one consortia per competition category; has an active role in policy decisions, is committed to using the assessment system or program developed.

■ Please consider my state for representation on the **steering committee**. (10 hr/wk)

☐ Please consider my state for representation on the **proposal design team** (20 hr/wk)

■ We are interested in participating in the following **work groups** (variable hr/wk)

- ■ Item Specs/Quality Control, Writing/Constructed Response Scoring/Validity
- ☐ Psychometrics, Reliability, Standard Setting, Reporting
- ■ Universal Design, Test Administration, Accommodations, Special Populations
- ☐ Technical Specifications/Requirements
- ☐ Communications and Documentation
- ☐ External Validation, Research and Innovations
- ■ Professional Development and Capacity Building (IT and Human)
- ■ Formative and Benchmark Assessment
- ■ Performance-Based, Curriculum-Embedded Assessments
- ■ High School and Higher Education

Chris L Nicastro — 4-14-10

Chief State School Officer Signature — Date

Memorandum of Understanding

SMARTER Balanced Assessment Consortium

Race to the Top Fund Assessment Program: Comprehensive Assessment Systems Grant Application

CFDA Number: 84.395B

This Memorandum of Understanding ("MOU") is entered as of May 25, **2010**, by and between the **SMARTER Balanced Assessment Consortium** (the "Consortium") and the **State of** Missouri, which has elected to participate in the Consortium as (check one)

_____ An **Advisory** State (description in section e),

OR

_X_ A **Governing** State (description in section e),

pursuant to the Notice Inviting Applications for the Race to the Top Fund Assessment Program for the Comprehensive Assessment Systems Grant Application (Category A), henceforth referred to as the "Program," as published in the Federal Register on April 9, 2010 (75 FR 18171-18185.

The purpose of this MOU is to

(a) Describe the Consortium vision and principles,
(b) Detail the responsibilities of States in the Consortium,
(c) Detail the responsibilities of the Consortium,
(d) Describe the management of Consortium funds,
(e) Describe the governance structure and activities of States in the Consortium,
(f) Describe State entrance, exit, and status change,
(g) Describe a plan for identifying existing State barriers, and
(h) Bind each State in the Consortium to every statement and assurance made in the application through the following signature blocks:
    (i)(A) Advisory State Assurance
    OR
    (i)(B) Governing State Assurance
    AND
    (ii) State Procurement Officer

(a) Consortium Vision and Principles

The Consortium's priorities for a new generation assessment system are rooted in a concern for the valid, reliable, and fair assessment of the deep disciplinary understanding and higher-order thinking skills that are increasingly demanded by a knowledge-based economy. These priorities are also rooted in a belief that assessment must support ongoing improvements in instruction and learning, and must be useful for all members of the educational enterprise: students, parents, teachers, school administrators, members of the public, and policymakers.

The Consortium intends to build a flexible system of assessment based upon the Common Core Standards in English language arts and mathematics with the intent that all students across this Consortium of States will know their progress toward college and career readiness.

The Consortium recognizes the need for a system of formative, interim, and summative assessments—organized around the Common Core Standards—that support high-quality learning, the demands of accountability, and that balance concerns for innovative assessment with the need for a fiscally sustainable system that is feasible to implement. The efforts of the Consortium will be organized to accomplish these goals.

The comprehensive assessment system developed by the Consortium will include the following key elements and principles:

1. A Comprehensive Assessment System that will be grounded in a thoughtfully integrated learning system of standards, curriculum, assessment, instruction and teacher development that will inform decision-making by including formative strategies, interim assessments, and summative assessments.

2. The assessment system will measure the full range of the Common Core Standards including those that measure higher-order skills and will inform progress toward and acquisition of readiness for higher education and multiple work domains. The system will emphasize deep knowledge of core concepts within and across the disciplines, problem solving, analysis, synthesis, and critical thinking.

3. Teachers will be involved in the design, development, and scoring of assessment items and tasks. Teachers will participate in the alignment of the Common Core Standards and the identification of the standards in the local curriculum.

4. Technology will be used to enable adaptive technologies to better measure student abilities across the full spectrum of student performance and evaluate growth in learning; to support online simulation tasks that test higher-order abilities; to score the results; and to deliver the responses to trained scorers/teachers to access from an

electronic platform. Technology applications will be designed to maximize interoperability across user platforms, and will utilize open-source development to the greatest extent possible.

5. A sophisticated design will yield scores to support evaluations of student growth, as well as school, teacher, and principal effectiveness in an efficient manner.

6. On-demand and curriculum-embedded assessments will be incorporated over time to allow teachers to see where students are on multiple dimensions of learning and to strategically support their progress.

7. All components of the system will incorporate principles of Universal Design that seek to remove construct-irrelevant aspects of tasks that could increase barriers for non-native English speakers and students with other specific learning needs.

8. Optional components will allow States flexibility to meet their individual needs.

(b) Responsibilities of States in the Consortium

Each State agrees to the following element of the Consortium's Assessment System:

- Adopt the Common Core Standards, which are college- and career-ready standards, and to which the Consortium's assessment system will be aligned, no later than December 31, 2011.

Each State that is a member of the Consortium in 2014–2015 also agrees to the following:

- Adopt common achievement standards no later than the 2014–2015 school year,
- Fully implement statewide the Consortium summative assessment in grades 3-8 and high school for both mathematics and English language arts no later than the 2014–2015 school year,
- Adhere to the governance as outlined in this document,
- Agree to support the decisions of the Consortium,
- Agree to follow agreed-upon timelines,
- Be willing to participate in the decision-making process and, if a Governing State, final decision, and
- Identify and implement a plan to address barriers in State law, statute, regulation, or policy to implementing the proposed assessment system and to addressing any such barriers prior to full implementation of the summative assessment components of the system.

(c) Responsibilities of the Consortium

The Consortium will provide the following by the 2014-15 school year:

1. A comprehensively designed assessment system that includes a strategic use of a variety of item types and performance assessments of modest scope to assess the full range of the Common Core Standards with an emphasis on problem solving, analysis, synthesis, and critical thinking.

2. An assessment system that incorporates a required summative assessment with optional formative/benchmark components which provides accurate assessment of all students (as defined in the Federal notice) including students with disabilities, English learners, and low- and high-performing students.

3. Except as described above, a summative assessment that will be administered as a computer adaptive assessment and include a minimum of 1–2 performance assessments of modest scope.

4. Psychometrically sound scaling and equating procedures based on a combination of objectively scored items, constructed-response items, and a modest number of performance tasks of limited scope (e.g., no more than a few days to complete).

5. Reliable, valid, and fair scores for students and groups that can be used to evaluate student achievement and year-to-year growth; determine school/district/state effectiveness for Title I ESEA; and better understand the effectiveness and professional development needs of teachers and principals.

6. Achievement standards and achievement level descriptors that are internationally benchmarked.

7. Access for the State or its authorized delegate to a secure item and task bank that includes psychometric attributes required to score the assessment in a comparable manner with other State members, and access to other applications determined to be essential to the implementation of the system.

8. Online administration with limited support for paper-and-pencil administration through the end of the 2016–17 school year. States using the paper-and-pencil option will be responsible for any unique costs associated with the development and administration of the paper-and-pencil assessments.

9. Formative assessment tools and supports that are developed to support curricular goals, which include learning progressions, and that link evidence of student competencies to the summative system.

10. Professional development focused on curriculum and lesson development as well as scoring and examination of student work.

11. A representative governance structure that ensures a strong voice for State administrators, policymakers, school practitioners, and technical advisors to ensure an optimum balance of assessment quality, efficiency, costs, and time. The governance body will be responsible for implementing plans that are consistent with this MOU, but may make changes as necessary through a formal adoption process.

12. Through at least the 2013–14 school year, a Project Management Partner (PMP) that will manage the logistics and planning on behalf of the Consortium and that will monitor for the U.S. Department of Education the progress of deliverables of the proposal. The proposed PMP will be identified no later than August 4, 2010.

13. By September 1, 2014, a financial plan will be approved by the Governing States that will ensure the Consortium is efficient, effective, and sustainable. The plan will include as revenue at a minimum, State contributions, federal grants, and private donations and fees to non-State members as allowable by the U.S. Department of Education.

14. A consolidated data reporting system that enhances parent, student, teacher, principal, district, and State understanding of student progress toward college- and career-readiness.

15. Throughout the 2013–14 school year, access to an online test administration application, student constructed-response scoring application and secure test administration browsers that can be used by the Total State Membership to administer the assessment. The Consortium will procure resources necessary to develop and field test the system. However, States will be responsible for any hardware and vendor services necessary to implement the operational assessment. Based on a review of options and the finance plan, the Consortium may elect to jointly procure these services on behalf of the Total State Membership.

(d) Management of Consortium Funds

All financial activities will be governed by the laws and rules of the State of Washington, acting in the role of Lead Procurement State/Lead State, and in accordance with 34 CFR 80.36. Additionally, Washington is prepared to follow the guidelines for grant management associated with the American Recovery and Reinvestment Act (ARRA), and will be legally responsible for the use of grant funds and for ensuring that the project is carried out by the Consortium in accordance with Federal requirements. Washington has already established an ARRA Quarterly reporting system (also referred to as *1512 Reporting*).

Per Washington statute, the basis of how funding management actually transpires is dictated by the method of grant dollar allocation, whether upfront distribution or pay-out linked to actual reimbursables. Washington functions under the latter format, generating claims against grant funds based on qualifying reimbursables submitted on behalf of staff or clients, physical purchases, or contracted services. Washington's role as Lead Procurement State/Lead State for the Consortium is not viewed any differently, as monetary exchanges will be executed against appropriate and qualifying reimbursables aligned to expenditure arrangements (i.e., contracts) made with vendors or contractors operating under "personal service contracts," whether individuals, private companies, government agencies, or educational institutions.

Washington, like most States, is audited regularly by the federal government for the accountability of federal grant funds, and has for the past five years been without an audit finding. Even with the additional potential for review and scrutiny associated with ARRA funding, Washington has its fiscal monitoring and control systems in place to manage the Consortium needs.

- As part of a comprehensive system of fiscal management, Washington's accounting practices are stipulated in the State Administrative and Accounting Manual (SAAM) managed by the State's Office of Financial Management. The SAAM provides details and administrative procedures required of all Washington State agencies for the procurement of goods and services. As such, the State's educational agency is required to follow the SAAM; actions taken to manage the fiscal activities of the Consortium will, likewise, adhere to policies and procedures outlined in the SAAM.
- For information on the associated contracting rules that Washington will adhere to while serving as fiscal agent on behalf of the Consortium, refer to the Revised Code of Washington (RCW) 39.29 "Personal Service Contracts." Regulations and policies authorized by this RCW are established by the State's Office of Financial Management, and can be found in the SAAM.

(e) Governance Structure and Activities of States in the Consortium

As shown in the SMARTER Balanced Assessment Consortium governance structure, the Total State Membership of the Consortium includes Governing and Advisory States, with Washington serving in the role of Lead Procurement State/Lead State on behalf of the Consortium.

A **Governing** State is a State that:

- Has fully committed to this Consortium only and met the qualifications specified in this document,
- Is a member of only one Consortium applying for a grant in the Program,
- Has an active role in policy decision-making for the Consortium,
- Provides a representative to serve on the Steering Committee,
- Provides a representative(s) to serve on one or more Work Groups,
- Approves the Steering Committee Members and the Executive Committee Members,
- Participates in the final decision-making of the following:
    - Changes in Governance and other official documents,
    - Specific Design elements, and
    - Other issues that may arise.

An **Advisory** State is a State that:

- Has not fully committed to any Consortium but supports the work of this Consortium,
- Participates in all Consortium activities but does not have a vote unless the Steering Committee deems it beneficial to gather input on decisions or chooses to have the Total Membership vote on an issue,
- May contribute to policy, logistical, and implementation discussions that are necessary to fully operationalize the SMARTER Balanced Assessment System, and
- Is encouraged to participate in the Work Groups.

Organizational Structure

Steering Committee

The Steering Committee is comprised of one representative from each Governing State in the Consortium. Committee members may be a chief or his/her designee. Steering Committee Members must meet the following criteria:

- Be from a Governing State,
- Have prior experience in either the design or implementation of curriculum and/or assessment systems at the policy or implementation level, and
- Must have willingness to serve as the liaison between the Total State Membership and Working Groups.

Steering Committee Responsibilities

- Determine the broad picture of what the assessment system will look like,

- Receive regular reports from the Project Management Partner, the Policy Coordinator, and the Content Advisor,
- Determine the issues to be presented to the Governing and/or Advisory States,
- Oversee the expenditure of funds in collaboration with the Lead Procurement State/Lead State,
- Operationalize the plan to transition from the proposal governance to implementation governance, and
- Evaluate and recommend successful contract proposals for approval by the Lead Procurement State/Lead State.

Executive Committee

- The Executive Committee is made up of the Co-Chairs of the Executive Committee, a representative from the Lead Procurement State/Lead State, a representative from higher education and one representative each from four Governing States. The four Governing State representatives will be selected by the Steering Committee. The Higher Education representative will be selected by the Higher Education Advisory Group, as defined in the Consortium Governance document.
- For the first year, the Steering Committee will vote on four representatives, one each from four Governing States. The two representatives with the most votes will serve for three years and the two representatives with the second highest votes will serve for two years. This process will allow for the rotation of two new representatives each year. If an individual is unable to complete the full term of office, then the above process will occur to choose an individual to serve for the remainder of the term of office.

Executive Committee Responsibilities

- Oversee development of SMARTER Balanced Comprehensive Assessment System,
- Provide oversight of the Project Management Partner,
- Provide oversight of the Policy Coordinator,
- Provide oversight of the Lead Procurement State/Lead State,
- Work with project staff to develop agendas,
- Resolve issues,
- Determine what issues/decisions are presented to the Steering Committee, Advisory and/or Governing States for decisions/votes,
- Oversee the expenditure of funds, in collaboration with the Lead Procurement State/Lead State, and
- Receive and act on special and regular reports from the Project Management Partner, the Policy Coordinator, the Content Advisor, and the Lead Procurement State/Lead State.

Executive Committee Co-Chairs

- Two Co-chairs will be selected from the Steering Committee States. The two Co-chairs must be from two different states. Co-chairs will work closely with the Project Management Partner. Steering Committee members wishing to serve as Executive Committee Co-chairs will submit in writing to the Project Management Partner their willingness to serve. They will need to provide a document signed by their State Chief indicating State support for this role. The Project Management Partner will then prepare a ballot of interested individuals. Each Steering Committee member will vote on the two individuals they wish to serve as Co-chair. The individual with the most votes will serve as the new Co-chair.
- Each Co-chair will serve for two years on a rotating basis. For the first year, the Steering committee will vote on two individuals and the one individual with the most votes will serve a three-year term and the individual with the second highest number of votes will serve a two-year term.
- If an individual is unable to complete the full term of office, then the above process will occur to choose an individual to serve for the remainder of the term of office.

Executive Committee Co-Chair Responsibilities

- Set the Steering Committee agendas,
- Set the Executive Committee agenda,
- Lead the Executive Committee meetings,
- Lead the Steering Committee meetings,
- Oversee the work of the Executive Committee,
- Oversee the work of the Steering Committee,
- Coordinate with the Project Management Partner,
- Coordinate with Content Advisor,
- Coordinate with Policy coordinator,
- Coordinate with the Technical Advisory Committee (TAC), and
- Coordinate with Executive Committee to provide oversight to the Consortium.

Decision-making

Consensus will be the goal of all decisions. Major decisions that do not reach consensus will go to a simple majority vote. The Steering Committee will determine what issues will be referred to the Total State Membership. Each member of each group (Advisory/Governing States, Steering Committee, Executive Committee) will have one vote when votes are conducted within each group. If there is only a one to three vote difference, the issue will be re-examined to seek greater consensus. The Steering Committee will be responsible for preparing additional information as to the pros and cons of the issue to assist voting States in developing consensus and reaching a final decision. The Steering Committee may delegate this responsibility to the Executive Committee. The Executive Committee will decide which decisions or issues are votes to

be taken to the Steering Committee. The Steering Committee makes the decision to take issues to the full Membership for a vote.

The Steering Committee and the Governance/Finance work group will collaborate with each Work Group to determine the hierarchy of the decision-making by each group in the organizational structure.

Work Groups

The Work Groups are comprised of chiefs, assessment directors, assessment staff, curriculum specialists, professional development specialists, technical advisors and other specialists as needed from States. Participation on a workgroup will require varying amounts of time depending on the task. Individuals interested in participating on a Work Group should submit their request in writing to the Project Management Partner indicating their preferred subgroup. All Governing States are asked to commit to one or more Work Groups based on skills, expertise, and interest within the State to maximize contributions and distribute expertise and responsibilities efficiently and effectively. The Consortium has established the following Work Groups:

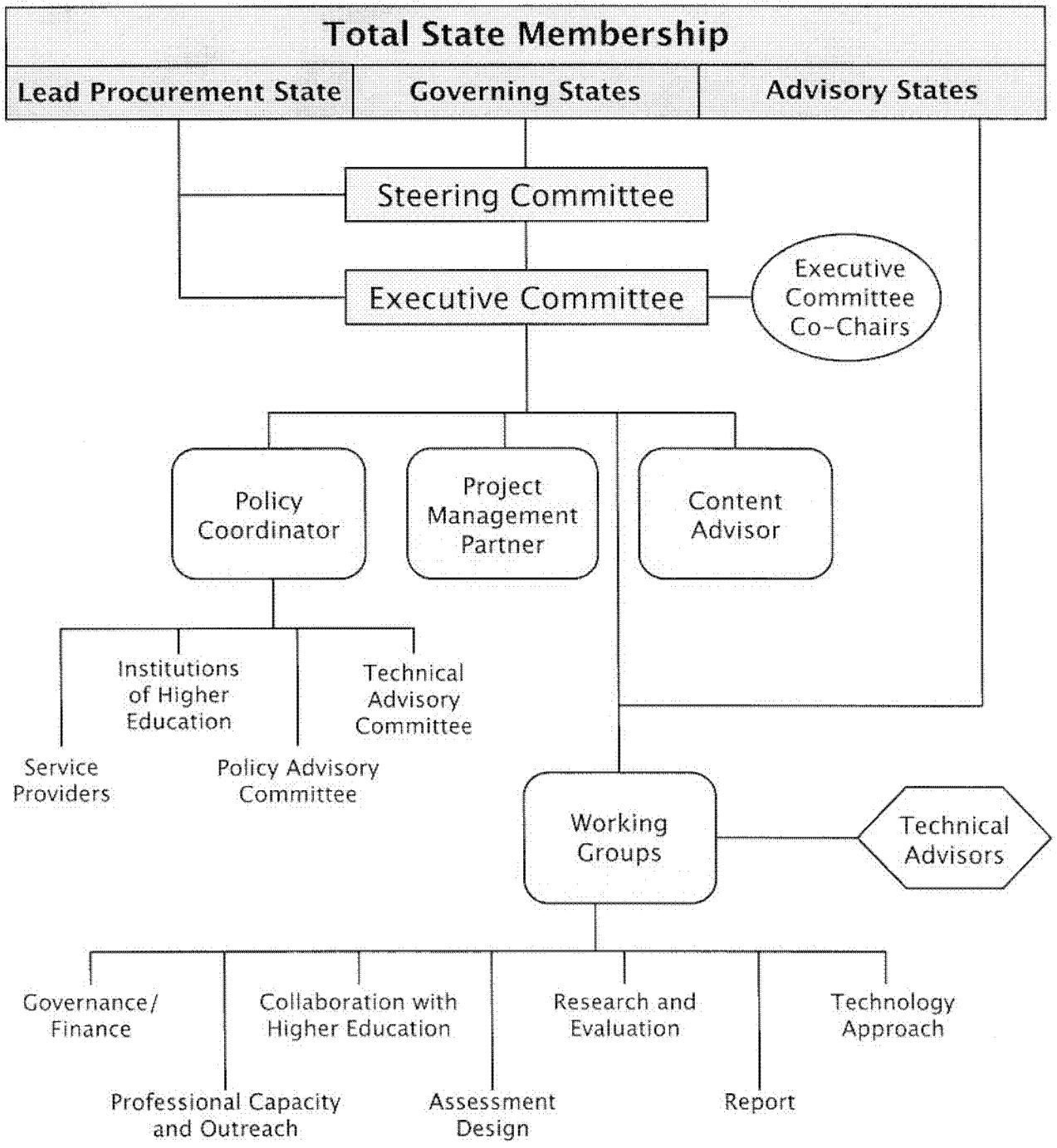
- Governance/Finance,
- Assessment Design,
- Research and Evaluation,
- Report,
- Technology Approach,
- Professional Capacity and Outreach, and
- Collaboration with Higher Education.

The Consortium will also support the work of the Work Groups through a Technical Advisory Committee (TAC). The Policy Coordinator in collaboration with the Steering Committee will create various groups as needed to advise the Steering Committee and the Total State Membership. Initial groups will include

- Institutions of Higher Education,
- Technical Advisory Committee,
- Policy Advisory Committee, and
- Service Providers.

An organizational chart showing the groups described above is provided on the next page.

SMARTER Balanced Assessment Consortium Organizational Structure



(f) State Entrance, Exit, and Status Change

This MOU shall become effective as of the date first written above upon signature by both the Consortium and the Lead Procurement State/Lead State (Washington) and remain in force until the conclusion of the Program, unless terminated earlier in writing by the Consortium as set forth below.

Entrance into Consortium
Entrance into the Smarter Balanced Assessment Consortium is assured when:

- The level of membership is declared and signatures are secured on the MOU from the State's Commissioner, State Superintendent, or Chief; Governor; and President/Chair of the State Board of Education (if the State has one);
- The signed MOU is submitted to the Consortium Grant Project Manager (until June 23) and then the Project Management Partner after August 4, 2010;
- The Advisory and Governing States agree to and adhere to the requirements of the governance;
- The State's Chief Procurement Officer has reviewed its applicable procurement rules and provided assurance that it may participate in and make procurements through the Consortium;
- The State is committed to implement a plan to identify any existing barriers in State law, statute, regulation, or policy to implementing the proposed assessment system and to addressing any such barriers prior to full implementation of the summative assessment components of the system; and
- The State agrees to support all decisions made prior to the State joining the Consortium.

After receipt of the grant award, any request for entrance into the Consortium must be approved by the Executive Committee. Upon approval, the Project Management Partner will then submit a change of membership to the USED for approval. A State may begin participating in the decision-making process after receipt of the MOU.

Exit from Consortium
Any State may leave the Consortium without cause, but must comply with the following exit process:

- A State requesting an exit from the Consortium must submit in writing their request and reasons for the exit request,
- The written explanation must include the statutory or policy reasons for the exit,
- The written request must be submitted to the Project Management Partner with the same signatures as required for the MOU,
- The Executive Committee will act upon the request within a week of the request, and
- Upon approval of the request, the Project Management Partner will then submit a change of membership to the USED for approval.

Changing Roles in the Consortium

A State desiring to change from an Advisory State to a Governing State or from a Governing State to an Advisory State may do so under the following conditions:

- A State requesting a role change in the Consortium must submit in writing their request and reasons for the request,
- The written request must be submitted to the Project Management Partner with the same signatures as required for the MOU, and
- The Executive Committee will act upon the request within a week of the request and submit to the USED for approval.

(g) Plan for Identifying Existing State Barriers

Each State agrees to identify existing barriers in State laws, statutes, regulations, or policies by noting the barrier and the plan to remove the barrier. Each State agrees to use the table below as a planning tool for identifying existing barriers. States may choose to include any known barriers in the table below at the time of signing this MOU.

Barrier	Issue/Risk of Issue (if known)	Statute, Regulation, or Policy	Governing Body with Authority to Remove Barrier	Approximate Date to Initiate Action	Target Date for Removal of Barrier	Comments

[remainder of page intentionally left blank]

(h) Bind each State in the Consortium to every statement and assurance made in the application through the following signature blocks

(h)(i)(A) ADVISORY STATE SIGNATURE BLOCK for Race to the Top Fund Assessment Program Comprehensive Assessment Systems Grant Application Assurances. *(Required from all "Advisory States" in the Consortium.)* As an Advisory State in the SMARTER Balanced Assessment Consortium, I have read and understand the roles and responsibilities of Advisory States, and agree to be bound by the statements and assurances made in the application.	
State Name:	
Governor or Authorized Representative of the Governor (Printed Name):	Telephone:
Signature of Governor or Authorized Representative of the Governor:	Date:
Chief State School Officer (Printed Name):	Telephone:
Signature of the Chief State School Officer:	Date:
President of the State Board of Education, if applicable (Printed Name):	Telephone:
Signature of the President of the State Board of Education, if applicable:	Date:

(h)(i)(B) GOVERNING STATE SIGNATURE BLOCK for Race to the Top Fund Assessment Program Comprehensive Assessment Systems Grant Application Assurances

(Required from all "Governing States" in the Consortium.)

As a Governing State in the SMARTER Balanced Assessment Consortium, I have read and understand the roles and responsibilities of Governing States, and agree to be bound by the statements and assurances made in the application.

I further certify that as a Governing State I am fully committed to the application and will support its implementation.

State Name:
Missouri

Governor or Authorized Representative of the Governor (Printed Name):
Jeremiah W. Nixon

Telephone:
573-751.3222

Signature of Governor or Authorized Representative of the Governor:

Date:
5-25-10

Chief State School Officer (Printed Name):
Chris L. Nicastro

Telephone:
573.751.4446

Signature of the Chief State School Officer:

Date:
5-20-10

President of the State Board of Education, if applicable (Printed Name):
David G. Liechti

Telephone:
573.751.3563

Signature of the President of the State Board of Education, if applicable:

Date:
5-20-2010

(h)(ii) STATE PROCUREMENT OFFICER SIGNATURE BLOCK for Race to the Top Fund Assessment Program Comprehensive Assessment Systems Grant Application Assurances.

(Required from all States in the Consortium.)

I certify that I have reviewed the applicable procurement rules for my State and have determined that it may participate in and make procurements through the SMARTER Balanced Assessment Consortium.

State Name:

Missouri

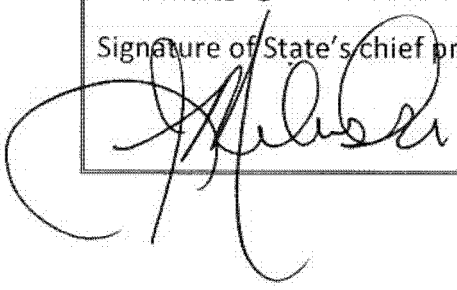
State's chief procurement official (or designee), (Printed Name):

James Miluski

Telephone:

573-751-8900

Signature of State's chief procurement official (or designee),:



Date:

5-26-10

STATE OF MISSOURI
DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION
DIVISION OF SCHOOL IMPROVEMENT
205 JEFFERSON ST., P.O. BOX 480
JEFFERSON CITY, MISSOURI 65102-0480

2009 COLLEGE PREPARATORY STUDIES CERTIFICATE

SECTION I – REQUIREMENTS

Subjects	*Units*
English/Language Arts	4
Mathematics	3
Science	2
Social Studies	3
Fine Arts	1
Practical Arts	1
Physical Education	1
Specified Core Electives	3
General Electives *(see Guidelines)*	6
	24

Additional Requirements

1. Grade point average of **3.0** (on a 4.0 scale) in mathematics, science, social studies and English/language arts.

2. Score above the **2008** national average by having attained at least:
   - **1,511** (combined) on the SAT
   - **or**
   - **21** (composite) on the ACT

SECTION II – NUMBER OF GRADUATES

We certify below the number of graduating students from our school (the Class of 2009) who are entitled to receive a state **College Preparatory Studies Certificate.** They have completed the necessary course requirements at a high level of achievement and have scored above the national average on either the ACT or SAT test.

_____ Number of students qualified for the College Preparatory Studies Certificate.

_____ Number of graduates enrolled.

SECTION III – CERTIFICATION

NAME OF SCHOOL DISTRICT	COUNTY/DISTRICT CODE

NAME OF SCHOOL

SIGNATURE OF PRINCIPAL	SIGNATURE OF COUNSELOR

MAIL OR FAX THIS FORM TO:

Assistant Commissioner of School Improvement
Missouri Department of Elementary and Secondary Education
P.O. Box 480, Jefferson City, MO 65102-0480
Phone: (573) 751-4234 Fax: (573) 751-9434
http://dese.mo.gov/divimprove/curriculum/collegeprep

DEADLINE: Certificates are mailed to high schools between April 1 and June 30.
Order in time for graduation!

Missouri Revised Statutes

Chapter 168
Personnel--Teachers and Others
Section *168.021*

August 28, 2009

Issuance of teachers' licenses--effect of certification in another state and subsequent employment in this state.

168.021. 1. Certificates of license to teach in the public schools of the state shall be granted as follows:

(1) By the state board, under rules and regulations prescribed by it:

(a) Upon the basis of college credit;

(b) Upon the basis of examination;

(2) By the state board, under rules and regulations prescribed by the state board with advice from the advisory council established by section 168.015 to any individual who presents to the state board a valid doctoral degree from an accredited institution of higher education accredited by a regional accrediting association such as North Central Association. Such certificate shall be limited to the major area of postgraduate study of the holder, shall be issued only after successful completion of the examination required for graduation pursuant to rules adopted by the state board of education, and shall be restricted to those certificates established pursuant to subdivision (1) of subsection 3 of this section;

(3) By the state board, which shall issue the professional certificate classification in both the general and specialized areas most closely aligned with the current areas of certification approved by the state board, commensurate with the years of teaching experience of the applicant, and based upon the following criteria:

(a) Recommendation of a state-approved baccalaureate-level teacher preparation program;

(b) Successful attainment of the Missouri qualifying score on the exit assessment for teachers or administrators designated by the state board of education. Applicants who have not successfully achieved a qualifying score on the designated examinations will be issued a two-year nonrenewable provisional certificate; and

(c) Upon completion of a background check and possession of a valid teaching certificate in the state from which the applicant's teacher preparation program was completed;

(4) By the state board, under rules prescribed by it, on the basis of a relevant bachelor's degree, or higher degree, and a passing score for the designated exit examination, for individuals whose academic degree and professional experience are suitable to provide a basis for instruction solely in the subject matter of banking or financial responsibility, at the discretion of the state board. Such certificate shall be limited to the major area of study of the holder and shall be restricted to those certificates established under subdivision (1) of subsection 3 of this section. Holders of certificates granted under this subdivision shall be exempt from the teacher tenure act under sections 168.102 to 168.130 and each school district shall have the decision-making authority on whether to hire the holders of such certificates; or

*(5) By the state board, under rules and regulations prescribed by it, on the basis of certification by the American Board for Certification of Teacher Excellence (ABCTE) and verification of ability to work with children as demonstrated by sixty contact hours in any one of the following areas as validated by the school principal: sixty contact hours in the classroom, of which at least forty-five must be teaching; sixty contact hours as a substitute teacher, with at least thirty consecutive hours in the same classroom; sixty contact hours of teaching in a private school; or sixty contact hours of teaching as a paraprofessional, for an initial four-year ABCTE certificate of license to teach, except that such certificate shall not be granted for the areas of early childhood education, elementary education, or special education. Upon the completion of the requirements listed in paragraphs (a), (b), (c), and (d) of this subdivision, an applicant shall be eligible to apply for a career continuous professional certificate under subdivision (2) of subsection 3 of this section:

(a) Completion of thirty contact hours of professional development within four years, which may include hours spent in class in an appropriate college curriculum;

(b) Validated completion of two years of the mentoring program of the American Board for Certification of Teacher Excellence or a district mentoring program approved by the state board of education;

(c) Attainment of a successful performance-based teacher evaluation; and

(d) Participate in a beginning teacher assistance program.

2. All valid teaching certificates issued pursuant to law or state board policies and regulations prior to September 1, 1988, shall be exempt from the professional development requirements of this section and shall continue in effect until they expire, are revoked or suspended, as provided by law. When such certificates are required to be renewed, the state board or its designee shall grant to each holder of such a certificate the certificate most nearly equivalent to the one so held. Anyone who holds, as of August 28, 2003, a valid PC-I, PC-II, or continuous professional certificate shall, upon expiration of his or her current certificate, be issued the appropriate level of certificate based upon the classification system established pursuant to subsection 3 of this section.

3. Certificates of license to teach in the public schools of the state shall be based upon minimum requirements prescribed by the state board of education. The state board shall provide for the following levels of professional certification: an initial professional certificate and a career continuous professional certificate.

(1) The initial professional certificate shall be issued upon completion of requirements established by the state board of education and shall be valid based upon verification of actual teaching within a specified time period established by the state board of education. The state board shall require holders of the four-year initial professional certificate to:

(a) Participate in a mentoring program approved and provided by the district for a minimum of two years;

(b) Complete thirty contact hours of professional development, which may include hours spent in class in an appropriate college curriculum, or for holders of a certificate under subdivision (4) of subsection 1 of this section, an amount of professional development in proportion to the certificate holder's hours in the classroom, if the certificate holder is employed less than full time; and

(c) Participate in a beginning teacher assistance program;

(2) (a) The career continuous professional certificate shall be issued upon verification of completion of four years of teaching under the initial professional certificate and upon verification of the completion of the requirements articulated in paragraphs (a), (b), and (c) of subdivision (1) of this subsection or paragraphs (a), (b), (c), and (d) of subdivision (5) of subsection 1 of this section.

(b) The career continuous professional certificate shall be continuous based upon verification of actual employment in an educational position as provided for in state board guidelines and completion of fifteen contact hours of professional development per year which may include hours spent in class in an appropriate college curriculum. Should the possessor of a valid career continuous professional certificate fail, in any given year, to meet the fifteen-hour professional development requirement, the possessor may, within two years, make up the missing hours. In order to make up for missing hours, the possessor shall first complete the fifteen-hour requirement for the current year and then may count hours in excess of the current year requirement as make-up hours. Should the possessor fail to make up the missing hours within two years, the certificate shall become inactive. In order to reactivate the certificate, the possessor shall complete twenty-four contact hours of professional development which may include hours spent in the classroom in an appropriate college curriculum within the six months prior to or after reactivating his or her certificate. The requirements of this paragraph shall be monitored and verified by the local school district which employs the holder of the career continuous professional certificate.

(c) A holder of a career continuous professional certificate shall be exempt from the professional development contact hour requirements of paragraph (b) of this subdivision if such teacher has a

local professional development plan in place within such teacher's school district and meets two of the three following criteria:

a. Has ten years of teaching experience as defined by the state board of education;

b. Possesses a master's degree; or

c. Obtains a rigorous national certification as approved by the state board of education.

4. Policies and procedures shall be established by which a teacher who was not retained due to a reduction in force may retain the current level of certification. There shall also be established policies and procedures allowing a teacher who has not been employed in an educational position for three years or more to reactivate his or her last level of certification by completing twenty-four contact hours of professional development which may include hours spent in the classroom in an appropriate college curriculum within the six months prior to or after reactivating his or her certificate.

5. The state board shall, upon an appropriate background check, issue a professional certificate classification in the areas most closely aligned with an applicant's current areas of certification, commensurate with the years of teaching experience of the applicant, to any person who is hired to teach in a public school in this state and who possesses a valid teaching certificate from another state or certification under subdivision (4) of subsection 1 of this section, provided that the certificate holder shall annually complete the state board's requirements for such level of certification, and shall establish policies by which residents of states other than the state of Missouri may be assessed a fee for a certificate license to teach in the public schools of Missouri. Such fee shall be in an amount sufficient to recover any or all costs associated with the issuing of a certificate of license to teach. The board shall promulgate rules to authorize the issuance of a provisional certificate of license, which shall allow the holder to assume classroom duties pending the completion of a criminal background check under section 168.133, for any applicant who:

(1) Is the spouse of a member of the armed forces stationed in Missouri;

(2) Relocated from another state within one year of the date of application;

(3) Underwent a criminal background check in order to be issued a teaching certificate of license from another state; and

(4) Otherwise qualifies under this section.

6. The state board may assess to holders of an initial professional certificate a fee, to be deposited into the excellence in education revolving fund established pursuant to section 160.268, RSMo, for the issuance of the career continuous professional certificate. However, such fee shall not exceed the combined costs of issuance and any criminal background check required as a condition of issuance. Applicants for the initial ABCTE certificate shall be responsible for

any fees associated with the program leading to the issuance of the certificate, but nothing in this section shall prohibit a district from developing a policy that permits fee reimbursement.

7. Any member of the public school retirement system of Missouri who entered covered employment with ten or more years of educational experience in another state or states and held a certificate issued by another state and subsequently worked in a school district covered by the public school retirement system of Missouri for ten or more years who later became certificated in Missouri shall have that certificate dated back to his or her original date of employment in a Missouri public school.

8. The provisions of subdivision (5) of subsection 1 of this section, as well as any other provision of this section relating to the American Board for Certification of Teacher Excellence, shall terminate on August 28, 2014.

(L. 1963 p. 200 § 9-2, A.L. 1973 H.B. 158, A.L. 1984 H.B. 1457 & 1501, A.L. 1988 S.B. 797, A.L. 1990 H.B. 1142, A.L. 1998 H.B. 1469, A.L. 2000 H.B. 1808, A.L. 2003 S.B. 296, A.L. 2008 H.B. 1678 merged with S.B. 1066, A.L. 2009 S.B. 291)

(Source: RSMo 1959 §§ 168.030, 168.260)

*Subdivision (5) of subsection 1 terminates 8-28-14.

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Missouri General Assembly

Guidelines for Performance-Based Principal Evaluation

2003

Missouri Department of Elementary and Secondary Education
Administrator Evaluation Committee

Foreword

We are excited and proud to introduce you to the new Performance Based Principals Evaluation Model (PBPE). Many organizations, individuals, consultants, higher education representatives and department members spent countless hours developing and field testing this outstanding model during the last two years. During the first phase of the project, the Committee reviewed and studied national models of administrator's performance assessment along with conducting an extensive literature review. In the second phase of the project, after the first draft was introduced, we field-tested the PBPE process in over thirty school districts. Feedback from the field-testing was utilized in completing the final document.

We are now ready to disseminate this recommended principal evaluation process to school districts and practitioners. Our hope is that local districts will adapt or adopt this model for their use. This system enhances the opportunity for local school leaders to maintain sustained dialogues about leadership competence and the responsibilities of school leaders to influence student success.

Our Missouri model represents the latest thinking and research on administrator's development and evaluation. The three integral parts of this model are: (a) the Interstate School Leaders Licensure Consortium (ISLLC) Standards, (b) the School Improvement Program (SIP), and (c) the Professional Learning Plan (PLP). When blended together, these three segments provide the basis for sustained professional development and a viable format for leader evaluation. Enhanced leader competence throughout your district and across the state should result from the effective implementation of this new leader evaluation process.

The design team wants to thank you for considering the implementation of this new PBPE model. If you have any feedback or need additional information as you develop your district's principal evaluation process, don't hesitate to contact our office.

(b)(6)

Dr. Charles Brown, Assistant Commissioner
Teacher Quality and Urban Education

(b)(6)

Dr. Douglas G. Miller, Coordinator
Professional Development/Leadership Academy

Acknowledgements

Missouri first passed legislation in 1985 which required districts to implement a performance-based administration evaluation process. At that time guidelines and procedures were developed. Those guidelines and procedures needed to be updated to meet the new requirements and expectations for today's school leaders. In April 2001, a statewide committee made up of administrators at all levels (state, university, alternative education, special education, career and technical education, central office, superintendents, principals, directors), plus personnel from the administrators' associations, teachers' associations, parent association and school board association, convened for that purpose. After many meetings and much deliberation, drawing upon the latest research and proven-effective evaluation and growth strategies for administrators, a document was produced. A pilot study was then conducted and appropriate changes made. The culmination of the efforts put forth by the committee are contained in the following pages.

The Department of Elementary and Secondary Education gratefully acknowledges the work of the Performance-Based Administrator Evaluation Committee members as follows:

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Table of Contents

Topic

Statutory Authority for Performance-Based Evaluation 1

Executive Summary 1

Philosophy 2

Guiding Principles 3

Process Development 4

Evaluation Process 5
- Principal Evaluation—Years 1-2 5
- Principal Evaluation—Subsequent Years 6
- Evaluation Forms 6
  - Form A: ISLLC Standards Evaluation Form 6
  - Form B: School Improvement Plan Summative Evaluative 7
  - Form C and Form C-2: Professional Learning Plan Forms 7
  - Form D: Comprehensive Summative Evaluative Report 7

Suggested Types of Performance Data 8

Appendices and Supplemental Resources 8

Appendix A
- PBPE Process and Timeline 10

Appendix B
- Form A-1: ISLLC Standard 1Summative Evaluation 12
- Form A-2: ISLLC Standard 2 Summative Evaluation 13
- Form A-3: ISLLC Standard 3 Summative Evaluation 14
- Form A-4: ISLLC Standard 4 Summative Evaluation 15
- Form A-5: ISLLC Standard 5 Summative Evaluation 16
- Form A-6: ISLLC Standard 6 Summative Evaluation 17
- Form B: School Improvement Plan Summative Evaluation 18
- Form C-1: Professional Learning Plan Worksheet 19
- Form C-2: Professional Learning Plan Summative Evaluation 20
- Form D: Comprehensive Summative Evaluation Report 21

Statutory Authority for Performance-Based Evaluation

Following is the text of the statute that requires Missouri school districts to implement a Performance-Based Principal Evaluation (PBPE) program. Adopted by the Missouri Legislature in 1985, the law also requires the Missouri Department of Elementary and Secondary Education to provide suggested procedures for administrator evaluation.

Section 168.410. School administrators and school district superintendents shall be evaluated in the following manner:

(1) The board of education of each school district shall cause a comprehensive performance-based evaluation for each administrator employed by the district. Such evaluation shall be ongoing and of sufficient specificity and frequency to provide for demonstrated standards of competency and academic ability.

(2) All evaluations shall be maintained in the respective administrator's personnel file at the office of the board of education of the school district. A copy of each evaluation shall be provided to the person being evaluated and to the appropriate administrator.

(3) The state department of elementary and secondary education shall provide suggested procedures for the evaluations performed under this section.

(L. 1985 H.B. 463)

Executive Summary

This manual contains the philosophy and procedures of the Missouri Department of Elementary and Secondary Education's Performance-Based Principal Evaluation Model. This evaluation model is a reflection of the most recent research and knowledge about school leadership and leader evaluation. It represents the work of a state advisory committee to link Performance-Based Principal Evaluation with the Interstate School Leaders Licensure Consortium Standards (ISLLC) for school leadership and administrator professional development.

The state advisory committee considered the direct testimony of experts to develop an evaluation model appropriate to the roles and responsibilities of highly effective school administrators. This model may be used to effectively evaluate administrator performance while encouraging personal reflection and professional growth.

This administrator evaluation model:

- facilitates personal goal setting by the administrator and his/her supervisor;
- acknowledges administrator progress toward accomplishment of school improvement goals;
- maintains a focus on continuous personal and professional growth;
- encourages mentoring and coaching relationships with other administrators; and
- incorporates multiple measures of student success as well as perception data from organizational stakeholders.

Philosophy

Alignment of the PBPE with other state initiatives is critical as the process of leader preparation, induction, and development moves from preparation institution to practice. The ISLLC Standards provide the framework for leader development throughout the state, serving as the basis for preparation program approval, national program accreditation, individual certification and licensure, portfolio re-licensure, and professional development. It follows that the administrator evaluation process be guided by the same standards.

The effective implementation of PBPE assures the public of quality school leadership at the building, district, and state level. As a result of this state-wide effort to enhance leadership capacity, the following outcomes should be influenced:

Personal Growth – Individual school leaders demonstrate professional growth through participation in a quality performance-based, developmental approach to evaluation. Individuals grow professionally through self-reflection, goal setting, and the use of support systems that foster continued growth from entry through retirement.

School Improvement and Student Achievement – Schools with more competent leaders provide better academic and non-academic educational experiences for their respective schools. Perception data from parents, patrons, students, and staff and a variety of measures of student success document this impact.

Systemic Growth across the District – School districts with more competent district and building leaders provide better academic and non-academic experiences for students across all the schools within the system. At each school and across the district a variety of measures of student success and perception data from parents, patrons, students, and staff document this impact.

Systemic Growth across the State – Administrator evaluation processes coupled with other statewide preparation-program and development efforts that foster continued growth and development of district and school leaders improve the comprehensive picture of education across the state. In addition, because Missouri continues to be at the fore in the areas of state-wide processes for leader preparation, evaluation, and development, the policies and practices established in Missouri influence those in numerous other states, thus broadening the impact of Missouri's efforts beyond the borders of our state.

These four potential outcomes parallel the stages of growth through which highly effective educational leaders progress.

Guiding Principles

The following principles are offered to school districts as they begin developing their own PBPE process. Each district must establish procedural rights based upon local school district policy and school law. This model does not establish procedural rights for the evaluation process.

- Whereas evaluation may be cyclical, professional growth is ongoing and continuous.
- Growth occurs in a collaborative culture where professionals learn and grow together.
- Various levels of experience and job responsibilities require differing levels of support by others.
- The self-reflective practitioner is knowledgeable of and proficient in gathering and analyzing multiple measures of feedback and data.
- Ownership of one's individual growth plan produces best results.
- Trust is a foundational piece that is essential to growth.
- Performance assessment should reinforce the significant role of learning in the school.
- Educational leaders must demonstrate competence as the instructional leaders of the school.
- The evaluation process should correlate with the school improvement process.
- Honest communication and interpersonal skills are essential to professional improvement.
- Principals must provide the leadership for collaborative discussions that establish goals and objectives.
- Performance evaluation should affirm the value of the role of principal as the key school-level leader.

To effectively implement these evaluation principles, the school district's PBPE system should be based upon established standards of leader performance and:

- use multiple measures to assess performance;
- use knowledgeable, fair decision-makers as evaluators;
- provide data for reflection and growth;
- focus upon a limited number of professional goals;
- foster self-diagnosis, self-reflection, and self-correction;
- be flexible enough to account for the varying complexities of the role; and,
- acknowledge the various career stages of the principalship.

Process Development

A local district committee should be created to develop the district's PBPE process. The committee should include board members, teachers, and administrators with representation across the elementary, middle, and secondary levels. A majority of the committee should be comprised of those who would be evaluated (e.g. administrators). After careful study of evaluation processes, including this state model, the committee should recommend an evaluation process to the school board that includes timelines, policies, and procedures.

Training

The successful implementation of any evaluation system requires training for all persons directly affected by the process. Awareness training is important for teachers and school board members while in-depth training is required for those responsible for implementing the system (i.e. superintendents, principals, etc.). A training-of-trainers model would develop a cadre of certified trainers available throughout the state who could present both awareness and in-depth training. The Regional Professional Development Centers (RPDCs) across Missouri will provide both levels of training on a regular basis in their respective regions. Certified trainers would include members of professional organizations involved in the preparation and ongoing development of school administrators (e.g. MASSP, MAESP, MASA, MACTE, MPEA, RPDCs, and DESE Leadership Academy staff).

In-depth training must consist of both the procedures for PBPE as well as the underlying principles of effective school leadership and continuous improvement. If a district uses the state model or a process similar to the state model, the superintendent of the district is responsible to ensure that each evaluator and principal has participated in an in-depth staff development for administrator evaluation, such as those provided by the RPDCs. If a district utilizes an evaluative process that is significantly different from the recommended state model, the superintendent of the district is responsible to ensure that district evaluators and principals are effectively trained in the implementation of the district system and that the model addresses the principles and practices described in the previous section of this manual.

Evaluation Process

This section provides an explanation of the recommended procedures for principal evaluation. It includes sections for first- and second-year principals, principals beyond the first two years, and explanations of the evaluation forms.

Principal Evaluation—Years 1 and 2

Across the state of Missouri, the ISLLC Standards have become the basis for school leader preparation, staff development, and re-certification. This recommended evaluation process utilizes the six ISLLC standards as a basis for defining basic principal skills. At the beginning of employment and continuing on a regular basis throughout the school year, the principal and his/her supervisor should discuss each standard and work toward a common understanding of the supervisor's expectations for the principal's performance on each standard.

Principals are ultimately responsible for the accomplishment of school goals as stated in the school improvement plan. At the beginning of employment and continuing thereafter, the principal and supervisor must maintain a regular dialogue about the accomplishment of the school's goals.

As soon as possible after the principal begins a new position, the principal and supervisor should begin discussions about district and school goals and the capacity of the principal to accomplish school goals and meet the performance expectations related to ISLLC standards. The Professional Learning Plan Worksheet (Form C-1) provides the basis for the principal's professional goals and the strategies to accomplish those professional goals. The worksheet should be completed no later than October 1 of the initial year and by July 1 of the second year. Thereafter, the plan should be reviewed, discussed, and refined as appropriate on a regular basis.

The principal and supervisor should periodically identify and collect data that add to their understanding of the principal's (a) leadership competence, (b) accomplishment of school goals, and (c) accomplishment of the professional plan. Such data are important to the principal in the self-reflection process and to the supervisor in the process of formulating judgments for the summative evaluation. Therefore, principals are encouraged to seek insight from groups such as faculty, staff, parents, students, and supervisors about their performance and the success of their school.

Prior to March 1 for each of the first two years, a Comprehensive Summative Evaluation Report (Form D) should be completed. The report should be based upon the evaluations of the principal's professional competence per the ISLLC Standards Summative Evaluation (Form A), the accomplishment of the goals identified in the School Improvement Plan Summative Evaluation (Form B), and the accomplishment of the professional goals established in the principal's Professional Learning Plan Summative Evaluation (Form C-2). For each summative area (ISLLC competencies, school goals, and professional plan) a self-evaluation should be completed by the principal and discussed with the supervisor prior to the completion of the summative forms. Following the completion of the three summative evaluation forms, the supervisor should prepare a written synthesis of performance and a formal written recommendation about employment using the Comprehensive Summative Evaluation Report (Form D). Annual evaluations are recommended during the first two years of employment but additional summative evaluations may be conducted at the discretion of the principal's supervisor or the request of the principal.

Principal Evaluation – Subsequent Years

After the first two years of employment as a principal in a district, the evaluation cycle should move to a two-year time frame. Principals and supervisors should maintain a regular dialogue about the principal's performance on the ISLLC Standards and the accomplishment of school goals. The establishment of professional goals using the Professional Learning Plan Worksheet (Form C-1) should occur during the spring or summer and be completed no later than July 1 of each year. Dialogue about progress toward the accomplishment of the professional plan should be continuous throughout each school year.

The summative evaluation process for principals with more than two years service is a two-year cycle. The summative process should include self-evaluation and supervisor evaluation with dialogue about performance on the ISLLC Standards (Form A), accomplishment of school goals (Form B), accomplishment of professional goals (Form C-2) and the completion of the Comprehensive Summative Evaluation Report (Form D). The process should be completed prior to March 1 during the second year of the two-year cycle. Biennial evaluations are recommended but additional summative evaluations may be conducted at the discretion of the principal's supervisor or the request of the principal. When the evaluation process is biennial, the data, discussions, and decisions should reflect both years of work.

The evaluation process should be responsive to differing levels of experience and competence as individuals move through stages in their leadership careers. Throughout the evaluation process, self- reflection should be emphasized. As feasible, the reflective process should be based upon the individual's personal job role and data related to that role. Data should be collected from important groups with whom the principal works, including faculty, staff, parents, students, and supervisors. Principals and supervisors should work collaboratively to identify data pertinent to the reflective process. Such data might include, but not be limited to, student performance, teacher and parent perceptions of leader competence, school climate and culture, etc. All sources of data may be compiled along with a principal's goals into a professional portfolio, which could be used with the evaluation process and certification renewal as appropriate.

Evaluation Forms

The implementation of this evaluation process recommends the use of a summative evaluation form for basic competency on the ISLLC Standards, an evaluation form for assessing accomplishment of school goals, and an evaluation form for the accomplishment of the goals identified on the principal's professional plan. The process also recommends the use of a comprehensive summative report that synthesizes the ratings of those three areas into an employment recommendation. Also provided is a worksheet for development of the principal's goals for the professional plan. All recommended forms are presented in Appendix B.

Form A: ISLLC Standards Evaluation Form. The supervisor and the principal use the form to document the principal's competence on each section (A-1 through A-6) of the Interstate School Leader Licensure Consortium Standards. The principal completes the narrative self-evaluation sections of the form and discusses those assessments with the supervisor. The supervisor then completes the evaluations for each section, using the scale provided on each form to record summative judgments. Form A, sections A-1 through A-6, should be completed by March 1 and used in conjunction with the School Improvement Plan Summative Evaluation and the Professional Learning Plan Summative Evaluation to establish a composite performance evaluation rating and employment recommendation on the Comprehensive Summative

Evaluation Report. Summative evaluations may be conducted more frequently at the discretion of the principal's supervisor or the request of the principal. Performance rated as "Not Accomplished" or "Marginally Accomplished" should be preceded by efforts to improve that performance through the goals and strategies identified in the Professional Learning Plan.

Form B: School Improvement Plan Summative Evaluation. Every school principal is responsible for the development and accomplishment of school goals as defined in the School Improvement Plan. The principal completes the self-assessment sections of the form and discusses the assessments with the supervisor. The supervisor then completes the supervisor's section of the form. Form B should be completed by March 1 and used in conjunction with the ISLLC Standards Summative Evaluation and the Professional Learning Plan Summative Evaluation to establish a composite performance evaluation and job recommendation on the Comprehensive Summative Evaluation Report. Summative evaluations may be conducted more frequently at the discretion of the principal's supervisor or the request of the principal.

Forms C-1 and C-2: Professional Learning Plan Forms. Two forms are provided for the Professional Learning Plan portion of the evaluation process. Form C-1, the Professional Learning Plan Worksheet, provides a format for the principal and supervisor to discuss and then develop goals for the professional growth of the principal. Each goal should be related to an ISLLC competence and/or a school improvement goal. Anticipated evidence of success and projected completion dates should be identified. During the first year, the worksheet should be completed by October 1. In subsequent years, the worksheet should be completed each year by July 1.

Form C-2, the Professional Learning Plan Summative Evaluation, provides the basis for evaluating the degree to which the principal has accomplished each of the goals in the principal's growth plan. The principal completes the self-assessment sections of the form and discusses the assessments with the supervisor. The supervisor then completes the supervisor's section of the form. Form C-2 should be completed by March 1 and used in conjunction with the ISLLC Standards Summative Evaluation and the School Improvement Plan Summative Evaluation to establish a composite performance evaluation and employment recommendation on the Comprehensive Summative Evaluation Report. Summative evaluations may be conducted more frequently at the discretion of the principal's supervisor or the request of the principal.

Form D: Comprehensive Summative Evaluation Report. The supervisor is responsible for synthesizing the evaluation components of performance on standards, achievement of school goals, and professional growth into a composite evaluation and an employment recommendation using the Comprehensive Summative Evaluation Report. The Comprehensive Summative Evaluation Report should be completed prior to March 1 each of the first two years and every other year during the subsequent years. Summative evaluations may be conducted more frequently at the discretion of the principal's supervisor or the request of the principal.

Suggested Types of Performance Data

Principals and supervisors should collaborate and identify various types of data that inform the self-reflection and evaluation process. Data should be collected periodically from important groups including faculty, staff, parents, students, and supervisors. The data might include, but not be limited to, student performance, surveys of teachers and parents about leadership, school climate or school culture. The data may be compiled with a principal's goals into a professional portfolio. The portfolio can be used with the evaluation process and certification renewal as appropriate.

Other forms of data that should be considered in the self-reflection and evaluation processes include:

- Attendance
- Drop-out rates
- MAP scores
- Discipline referrals
- National standardized tests (e.g. ACT, SAT, PLAN, Stanford 9, Terra Nova)
- Parent participation in school processes
- Graduation rates
- Suspension rates
- Course failure rates
- Contextual demographic data
- Perceptual data from various groups

Appendices and Supplemental Resources

For a summary outline of this evaluation process and related timeline, see Appendix A. The evaluation forms that accompany this recommended process are provided in Appendix B.

Copies of the ISLLC Standards and examples of rubrics related to the ISLLC Standards can be obtained through Missouri's Regional Professional Development Centers or over the Internet site of the Missouri Professors of Educational Administration.

Following are recommended resources for the processes recommended in this Missouri model for principal evaluation.

Karen Hessel, and John Holloway (2002). *A Framework for School Leaders: Linking the ISLLC Standards to Practice*. Princeton, N. J.: Educational Testing Service.

Council of Chief State School Officers. (1996). *Interstate School Leaders Licensure Consortium Standards for School Leaders.* Washington, D. C.

National Association of Elementary School Principals. (2001). *NAESP Standards for What Principals Should Know and Be Able to Do.* 1615 Duke Street, Alexandria, Virginia 22314-3483.

Council of Chief State School Officers in Partnership With the National Policy Board for Education Administration. *Standards Based Professional Development for School Leaders/Collaborative Professional Development Process for School Leaders.* One Massachusetts Avenue, NW, Suite 700, Washington, DC 20001-1431.

Appendix A

Summary Outline of PBPE Evaluation Process and Timeline

PBPE Process and Timeline

	Year 1	Year 2	Years 3 & 5	Years 4 & 6
I. ISLLC Standards (Form A)			(non-summative evaluation yrs)	
(1) Dialogue about personal competence	Employ—9/30			
(2) Dialogue about supervisor expectations	Employ – 9/30			
(3) Continue dialogue about personal competence	10/1—6/30	7/1—2/28	7/1—6/30	7/1—2/28
(4) Continue dialogue about supervisor expectations	10/1—6/30	7/1—2/28	7/1—6/30	7/1—2/28
(5) Principal self-evaluation on ISLLC Standards (Form A)	January or February	January or February	January or February	January or February
(6) Supervisor evaluation on ISLLC standards (Form A)	By March 1	By March 1		By March 1
(7) Continue dialogue about personal competence	3/1—6/30	3/1—6/30		3/1—6/30
(8) Supervisor conducts summative evaluation if needed			When Needed	
II. School Improvement Plan Goals (Form B)				
(1) Dialogue about school goals	Employ—9/30			
(2) Dialogue about principal's and supervisor's expectations	Employ—9/30			
(3) Goals on Form B are to be established	By October 1	By July 1	By July 1	By July 1
(4) Continue dialogue about school goals and expectations	10/1—6/30	7/1—2/28	7/1—6/30	7/1—2/28
(5) Continue dialogue about principal's/supervisor's expectations	10/1—6/30	7/1—2/28	7/1—6/30	7/1—2/28
(6) Principal self-evaluation of school improvement goals (Form B)	January or February	January or February	January or February	January or February
(7) Supervisor evaluation on school improvement plan goals (Form B)	By March 1	By March 1		By March 1
(8) Continue dialogue about school improvement plan goals	3/1—6/30	3/1—6/30		3/1—6/30
(9) Supervisor conducts summative evaluation if needed			When Needed	
III. Professional Learning Plan (Form C-1)				
(1) Dialogue about relationship between personal competence, school goals and professional goals	Employ—9/30			
(2) Develop professional goals (Form C-1 worksheet)	Employ—9/30	By July 1	By July 1	By July 1
(3) Review with and receive supervisor input on Professional Learning Plan	By October 1	By July 1	By July 1	By July 1
(4) Continue dialogue about relationship between personal competence, school goals and professional goals	10/1—6/30	8/1—2/28	8/1—6/30	8/1—2/28
(5) Principal self-evaluation on Professional Learning Plan Goals (Form C-2)	January or February	January or February	January or February	January or February
(6) Supervisor evaluation on Professional Learning Plan Goals (Form C-2)	By March 1	By March 1		By March 1
(7) Continue dialogue about relationship between personal competence, school goals and professional goals	3/1—6/30	3/1—6/30		3/1—6/30
(8) Supervisor conducts summative evaluation if needed			When Needed	
IV. Summative Evaluation Report (Form D)				
(1) Supervisor conducts summative evaluation report	By March 1	By March 1		By March 1
(2) Supervisor conducts summative evaluation report if needed			When Needed	

Appendix B

Evaluation Forms

Form A-1: ISLLC Standard 1 Summative Evaluation

To be completed by March 1, this form serves as the summative evaluation form for the ISLLC Standards and is used in conjunction with the School Improvement Plan and the Professional Learning Plan summative evaluation forms to establish a comprehensive performance evaluation.

<u>Standard 1</u>: A school administrator is an educational leader who promotes the success of all students by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by the school community. The effective principal:

1.1 Uses research about best professional practice.
1.2 Recognizes the uniqueness and educability of each learner in a pluralistic society.
1.3 Plans for continuous, comprehensive, systemic school improvement.
1.4 Uses data for vision-driven change.
1.5 Promotes personal reflection (open to continuous review and revision through thoughtful study of one's beliefs and practices).
1.6 Uses fundamental principles of interpersonal communication, consensus building, conflict resolution, and organization change.

Narrative (Self-Evaluation):

Supervisor Rating: *(Circle)*	Not Accomplished*	Marginally Accomplished*	Mostly Accomplished	Accomplished

Narrative (Supervisor Evaluation):

_____ Administrator Signature/Date

_____ Supervisor Signature/Date

Signatures indicate the information related to this evaluation has been discussed.

*A summative rating of "Not Accomplished" or "Marginally Accomplished" should be preceded by efforts to improve as identified in the Professional Learning Plan.

Form A-2: ISLLC Standard 2 Summative Evaluation

To be completed by March 1, this form serves as the summative evaluation form for the ISLLC Standards and is used in conjunction with the School Improvement Plan and the Professional Learning Plan summative evaluation forms to establish a comprehensive performance evaluation.

Standard 2: A school administrator is an educational leader who promotes the success of all students by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth. The effective principal:

2.1 Identifies and codifies varied instructional strategies.
2.2 Supports a culture for a caring school community.
2.3 Uses student assessment grounded in the belief that each student can learn.
2.4 Uses student data that improve instruction.
2.5 Develops, evaluates, and refines curriculum.
2.6 Plans professional development for staff.
2.7 Assesses the level of commitment to life-long learning of staff and students.
2.8 Assesses the nature of a school's climate and culture.

Narrative (Self-Evaluation):

Supervisor Rating: *(Circle)*	Not Accomplished*	Marginally Accomplished*	Mostly Accomplished	Accomplished

Narrative (Supervisor Evaluation):

_____ Administrator Signature/Date

_____ Supervisor Signature/Date

Signatures indicate the information related to this evaluation has been discussed.

*A summative rating of "Not Accomplished" or "Marginally Accomplished" should be preceded by efforts to improve as identified in the Professional Learning Plan.

Form A-3: ISLLC Standard 3 Summative Evaluation

To be completed by March 1, this form serves as the summative evaluation form for the ISLLC Standards and is used in conjunction with the School Improvement Plan and the Professional Learning Plan summative evaluation forms to establish a comprehensive performance evaluation.

<u>Standard 3</u>: A school administrator is an educational leader who promotes the success of all students by ensuring management of the organization, operations, and resources for a safe, efficient, and effective learning environment. The effective principal:

3.1 Uses varied principles, theories, and models of management that support effective learning and teaching.
3.2 Analyzes the operations procedures in a school.
3.3 Involves stakeholders in management decision-making through consensus building.
3.4 Stimulates building budget development.
3.5 Utilizes human resources across the facility.
3.6 Addresses confidentiality and privacy issues.
3.7 Analyzes safety and accessibility of the school environment.
3.8 Uses technology to manage school operations.

Narrative (Self-Evaluation):

Supervisor Rating: *(Circle)*	Not Accomplished*	Marginally Accomplished*	Mostly Accomplished	Accomplished

Narrative (Supervisor Evaluation):

_____ Administrator Signature/Date

_____ Supervisor Signature/Date

Signatures indicate the information related to this evaluation has been discussed.

*A summative rating of "Not Accomplished" or "Marginally Accomplished" should be preceded by efforts to improve as identified in the Professional Learning Plan.

Form A-4: ISLLC Standard 4 Summative Evaluation

To be completed by March 1, this form serves as the summative evaluation form for the ISLLC Standards and is used in conjunction with the School Improvement Plan and the Professional Learning Plan summative evaluation forms to establish a comprehensive performance evaluation.

<u>Standard 4</u>: A school administrator is an educational leader who promotes the success of all students by collaborating with family and community members, responding to diverse community interests and needs, and mobilizing community resources. The effective principal:

4.1 Fosters the involvement of the community in the educational programs of the school.
4.2 Fosters the involvement of the school in the life of the community.
4.3 Fosters the involvement of families in the educational programs of the school.
4.4 Fosters collaboration and communication among members of the school and school community.
4.5 Demonstrates diversity is valued.

Narrative (Self-Evaluation):

Supervisor Rating: *(Circle)*	Not Accomplished*	Marginally Accomplished*	Mostly Accomplished	Accomplished

Narrative (Supervisor Evaluation):

_____ Administrator Signature/Date

_____ Supervisor Signature/Date

Signatures indicate the information related to this evaluation has been discussed.

*A summative rating of "Not Accomplished" or "Marginally Accomplished" should be preceded by efforts to improve as identified in the Professional Learning Plan.

Form A-5: ISLLC Standard 5 Summative Evaluation

To be completed by March 1, this form serves as the summative evaluation form for the ISLLC Standards and is used in conjunction with the School Improvement Plan and the Professional Learning Plan summative evaluation forms to establish a comprehensive performance evaluation.

Standard 5: A school administrator is an educational leader who promotes the success of all students by acting with integrity, fairness, and in an ethical manner. The effective principal:

5.1 Develops a personal code of ethics.
5.2 Assesses the level of trust in a school setting.
5.3 Examines the prevailing nature of values in the school community.
5.4 Examines the essence of how school leaders treat people (e.g. with respect, courtesy, fairness, and equity).
5.5 Demonstrates ethical decision-making.

Narrative (Self-Evaluation):

Supervisor Rating: *(Circle)*	Not Accomplished*	Marginally Accomplished*	Mostly Accomplished	Accomplished

Narrative (Supervisor Evaluation):

_____ Administrator Signature/Date

_____ Supervisor Signature/Date

Signatures indicate the information related to this evaluation has been discussed.

*A summative rating of "Not Accomplished" or "Marginally Accomplished" should be preceded by efforts to improve as identified in the Professional Learning Plan.

Form A-6: ISLLC Standard 6 Summative Evaluation

To be completed by March 1, this form serves as the summative evaluation form for the ISLLC Standards and is used in conjunction with the School Improvement Plan and the Professional Learning Plan summative evaluation forms to establish a comprehensive performance evaluation.

<u>Standard 6</u>: A school administrator is an educational leader who promotes the success of all students by understanding, responding to, and influencing the larger political, social, economic, legal, and cultural context. The effective principal:

6.1 Promotes open and ongoing communication with community types concerning trends, issues, and potential changes.

6.2 Develops school policies and regulations consistent with local, state, and federal laws.

Narrative (Self-Evaluation):

Supervisor Rating: *(Circle)*	Not Accomplished*	Marginally Accomplished*	Mostly Accomplished	Accomplished

Narrative (Supervisor Evaluation):

_____ Administrator Signature/Date

_____ Supervisor Signature/Date

Signatures indicate the information related to this evaluation has been discussed.

*A summative rating of "Not Accomplished" or "Marginally Accomplished" should be preceded by efforts to improve as identified in the Professional Learning Plan.

Form B: School Improvement Plan Summative Evaluation

Every school principal is responsible for the development and accomplishment of school goals as defined in the School Improvement Plan. To be completed by March 1, this form is used by the supervisor and principal for the evaluation of accomplishment of the School Improvement Plan goals. It is used in conjunction with the ISLLC Summative Evaluation Form and the Professional Learning Plan Summative Evaluation Form to establish a comprehensive performance evaluation.

School Improvement Plan Goals	Self-Assessment	Supervisor Assessment
1.	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished
2.	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished
3.	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished
4.	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished
Narrative Self-Assessment:		

_____ _____

Administrator Signature/Date Supervisor Signature/Date

Signatures indicate the information related to this evaluation has been discussed.

*A summative rating of "Not Accomplished" or "Marginally Accomplished" should be preceded by efforts to improve as identified in the Professional Learning Plan.

Form C-1: Professional Learning Plan Worksheet

The principal and supervisor use this worksheet for the development of the principal's Professional Learning Plan goals and related strategies for accomplishing the goals. Use a separate worksheet for each goal. This form should be used in conjunction with the Form C-2: Professional Learning Plan Summative Form. This worksheet should be completed by October 1 during the first year and by July 1 during subsequent years.

Goal Statement:

Strategies	Correlation w/ ISLLC	Correlation w/ SIP Goal	Indicators of Success	Projected Completion Date

Administrator Signature/Date

Supervisor Signature/Date

Signatures indicate the information related to this evaluation has been discussed.

*A summative rating of "Not Accomplished" or "Marginally Accomplished" should be preceded by efforts to improve as identified in the Professional Learning Plan.

Note: It is recommended that no more than four goals be addressed during an evaluation cycle.

Form C-2: Professional Learning Plan Summative Evaluation

The principal and supervisor use this form for the evaluation of the principal's Professional Learning Plan. To be completed by March 1, it serves as the summative evaluation form for the Professional Learning Plan and is used in conjunction with the ISLLC summative evaluation and the School Improvement summative evaluation forms to establish a comprehensive performance evaluation.

Professional Learning Plan Goals	Self-Assessment	Supervisor Assessment
1.	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished
2.	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished
3.	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished
4.	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished	❑ No progress ❑ Some progress ❑ Significant progress ❑ Completely accomplished
Narrative Self-Assessment:		

_____ _____

Administrator Signature/Date Supervisor Signature/Date

Signatures indicate the information related to this evaluation has been discussed.

*A summative rating of "Not Accomplished" or "Marginally Accomplished" should be preceded by efforts to improve as identified in the Professional Learning Plan.

Note: It is recommended that no more than four goals be addressed during an evaluation cycle.

Form D: Comprehensive Summative Evaluation Report

The supervisor uses this form to synthesize the evaluation process and make an employment recommendation. This form and related recommendation should be completed by March 1.

Section A: ISLLC Standards

Section B: School Improvement Goals

Section C: Professional Learning Plan Goals

Supervisor's Employment Recommendation: _____ Renewal of Contract _____ Non-renewal of Contract

_____ Administrator Signature/Date

_____ Supervisor Signature/Date

Signatures indicate the information related to this evaluation has been discussed. If desired, the principal may prepare written comments relative to this evaluation. Those comments will be appended to this Report if they are provided to the supervisor within three calendar days and the comments include a written request that they be appended.

Guidelines for Performance-Based Teacher Evaluation

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Missouri Department of Elementary and Secondary Education

Foreword

As the Department of Elementary and Secondary Education, as individual school districts and as classroom teachers, Missouri educators are committed to excellence. The committment requires that effective instruction and learning opportunities be provided for each of our students.

If our students are to perform well, it is paramount that our teachers perform well. We must share a clear vision of what excellence in performance is so that we can align our efforts toward achieving it - efforts which include more than evaluation, efforts which include improvement of instruction through professional development.

The work on this document began three years ago and is the culmination of the effort of a state-wide Performance-Based Teacher Evaluation committee. The committee received input from various organizations and individuals, focus groups, and a pilot study with over 35 schools participating. While the starting point is evaluation, the intent of the document is to help all of us move beyond concerns about competency and to focus on the more desirable goal of continual improvement and professional development so that we can ensure the academic success of each child who enters our schools today, tomorrow, and into the 21st century.

We thank those who worked so hard to see this work to completion. We are hopeful that the work produced will prove practical, allowing districts to adapt its content in full or in part as they go about their responsibilities for staff evaluation and growth.

Robert E. Bartman

Commissioner of Education

Acknowledgements

Missouri first passed legislation in 1983, which required districts to implement a performance-based teacher evaluation process. At that time, guidelines and procedures were developed. Those guidelines and procedures needed to be updated to meet the new requirements and expectations of today's educators. In February, 1997, a state-wide committee made up of teachers, principals, superintendents, university personnel, state department personnel, and state legislators had their first meeting. Many meetings later, after hours of deliberation, the following document was produced.

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Table of Contents

Topic	Page
Statutory Authority for Performance-Based Evaluation	1
Executive Summary	1
Philosophy	2
Guiding Principles	2
Teacher Evaluation and Professional Development	4
Performance-Based Teacher Evaluation (Chart)	5
Professional Development/Teacher Evaluation Cycles	6
Non-Tenured Teacher	6
Tenured Teacher	8
Professional Development Plan Options	8
Evaluation Timeline	12
Data Collection Forms	13
Professional Plans	13
Professional Development Plan	13
Professional Improvement Plan	14
Evaluation Report	14
Standards and Criteria for Performance-Based Teacher Evaluation	15
Teacher Evaluation Criteria with Descriptors	17
Glossary	25
References	26
Appendix A:	
Lesson Plan Review	30
Professional Observation Record	32
Supplemental Professional Observation Record (Short Form)	36
Lesson Reflection Sheet	37
Appendix B:	
Comprehensive Data Collection Form	39
Appendix C:	
Self-Evaluation Form	46
Professional Development Plan	48
Professional Improvement Plan	51
Appendix D:	
Option 1: Evaluation Report (3 point rating scale)	53
Option 2: Evaluation Report (4 point rating scale with scoring guide)	56

Statutory Authority for Performance-Based Evaluation

Following is the text of the statute that requires Missouri school districts to implement a performance-based teacher evaluation program. Adopted by the Missouri Legislature in1983, the law also requires the Missouri Department of Elementary and Secondary Education to "provide suggested procedures for such an evaluation." The first document providing suggested procedures and evaluation was made available to school districts in 1984. This document serves to revise the original document to better fulfill the intent of the existing statute.

Section 168.128. Teacher records, how maintained-evaluations, how performed and maintained. -The board of education of each school district shall maintain records showing periods of service, dates of appointment, and other necessary information for the enforcement of section 168.102 to 168.130. In addition, the board of education of each school district shall cause a comprehensive performance-based evaluation for each teacher employed by the district. Such evaluation shall be ongoing and of sufficient specificity and frequency to provide for demonstrated standards of competency and academic ability. All evaluations shall be maintained in the teacher's personnel file at the office of the board of education. A copy of each evaluation shall be provided to the teacher and appropriate administrator. The State Department of Elementary and Secondary Education shall provide suggested procedures for such an evaluation.

(L. 1969 p.275§168.114, A.L. 1983 H.B. 38 & 783)

Executive Summary

This manual contains the philosophy and procedures of the Department of Elementary and Secondary Education's Performance-Based Teacher Evaluation Model. This evaluation model has been constructed after considering recent research (Danielson, 1996; Glattorn, 1997; Peterson, 1995; & Manatt, 1994; MoSTEP Standards, 1999) and best practice. The model represents the work of a state advisory committee to link Performance-Based Teacher Evaluation with the Missouri Show-Me Standards (1994) state assessments, individual professional development, teacher education standards, and ultimately, student success.

The committee considered the direct testimony of experts, discussing concepts and formulating ideas to develop an evaluation model that respects the roles and responsibilities of both teacher and administrator. It was important to develop a model that could be used to effectively evaluate teacher performance while encouraging professional growth. Developmental and reflective practice needs have been integrated into the model.

The new evaluation system is characterized by

- Both evaluative and professional development processes
- Self-directed professional development for teachers
- Clear criteria and standards, supporting the Show-Me Standards, student performance and assessment
- Clear procedures for the evaluation of performance
- An emphasis on training for both teachers and administrators; and
- A collaborative process which is necessary for the development of a learning community.

These characteristics create a linked system, which permits reliable and valid judgments to be made regarding teacher performance.

Philosophy

A performance-based teacher evaluation system is critical to improving teaching, thus improving student knowledge and performance. Performance-based teacher evaluation is intended to assist administrators and teachers in creating a learning environment in which students acquire and apply knowledge and skills.

A performance-based teacher evaluation system supplies information and feedback regarding effective practice, offers a pathway for individual professional growth, allows a mechanism to nurture professional growth toward common goals and supports a learning community in which people are encouraged to improve and share insights in the profession.

Guiding Principles

This model does not establish procedural rights for the evaluation process. Each district must establish procedural rights based on local school district policy and school law. Beyond procedural rights, the following guiding principles are offered to districts as they begin developing their own performance-based evaluation instrument.

- The responsibility for staff evaluation and professional growth resides at the local school district level. This manual should be used as a starting point in the development of a district's evaluation system. The system should be developed collaboratively by teachers and administrators.
- The Performance-Based Teacher Evaluation model should have processes that address teacher evaluation and professional development. The teacher evaluation phase serves organizational decision-making purposes while the professional development phase supports the teacher in improving performance on an ongoing basis.
- Adequate time and opportunity should be provided for teachers to grow professionally by participating in activities such as mentoring, peer coaching, working on professional teams, etc.
- Criteria should address both student and teacher behaviors. The central focus in developing an evaluation system is to promote student success.
- The process of teacher evaluation and professional growth should allow for teacher reflection, teacher collaboration, and staff contribution to the learning community.
- A strong mentoring program, with proper funding and training, is essential for providing the necessary support and feedback for first- and second-year teachers.
- Reliable evaluators are essential to the evaluation process. Evaluators should be trained in the skills of analyzing effective teaching, providing reflective conferencing, managing documentation, and providing leadership for teacher professional development.

- The system should provide for a connection between the evaluation criteria, student performance, school building goals, and district comprehensive school improvement plans.
- Sufficient orientation should be provided to acquaint teachers with the district's evaluation and professional growth process and the specific criteria to be documented. Both district-wide and building-level meetings should be held to properly acquaint teachers with the evaluation model.
- A post-observation conference should be conducted within a reasonable period of time following a classroom observation. Data observed by the administrator/ supervisor as well as other data that is provided by the teacher should be shared at conference time. The conference should include a discussion of the alignment between the classroom activities and the Missouri Show-Me Standards or curriculum guides
- All teachers should have a Professional Development Plan (PDP) or a Professional Improvement Plan (PIP). The Professional Development Plan will vary based on the classification of the teacher. Non-tenured teachers in their first two years of teaching should develop a Professional Development Portfolio that documents all evaluation criteria. Professional Development Plans for non-tenured teachers in years 3-5 may provide enrichment opportunities beyond the portfolio. Tenured teachers will develop Professional Development Plans that allow for growth/enrichment related to specific criteria, building goals and the comprehensive school improvement plan.
- As teachers develop their PDPs they should pay close attention to the requirements for PCI, PCII and CPC certification.
- The local Professional Development Committee should serve as a resource to provide teachers professional opportunities related to their individual Professional Development Plans.
- Professional Improvement Plans should be developed to assist teachers not meeting district expectations.
- The administrator/supervisor is responsible for the management of the teacher evaluation and professional development phases of the PBTE. However, the process of data collection is a collaborative venture. The teacher and administrator/supervisor collect and discuss the data during conferences.
- The use of multiple trained evaluators may be appropriate and beneficial in some districts.

Teacher Evaluation and Professional Development

Performance-Based Teacher Evaluation consists of a teacher evaluation phase and a professional development phase. Teacher evaluations serve organizational decision-making purposes. Decisions about tenure are based on such evaluations. Teacher evaluation of beginning teachers serves as a means of ensuring that they have or are developing essential teaching skills. Teacher evaluations also serve to reassure school boards that the quality of the teaching force is maintained. Non-tenured teachers are formally evaluated on an annual basis. Tenured teachers are evaluated on a five-year cycle, however, the administrator/supervisor may formally evaluate a tenured teacher as often as is deemed necessary. All teachers should receive frequent "drop-in" observations each year.

The professional development phase provides feedback or information that encourages teachers' professional growth. Restructuring initiatives and higher standards for student success will continue to press teachers to try new approaches in the classroom. The school districts' implementation of the Missouri Show-Me Standards may mean that many teachers will have to redesign the way they teach. If teachers and schools are to improve the quality of instructional programs, then an evaluation system designed to encourage teacher growth is essential.

The following definitions are provided:

Professional Development – a system designed to help teachers improve on an ongoing basis.

Teacher Evaluation – a system of feedback for teachers that is designed to measure their teaching competence.

The evaluation and the professional development of a non-tenured teacher is different from the evaluation and professional development of a tenured teacher because the developmental levels are different. Accountability and judging readiness for tenure are important purposes of evaluation for non-tenured teachers.

The evaluation of tenured teachers who are experiencing difficulties will be different than that of tenured teachers who have proven themselves to be competent. Therefore, it is impossible to develop one method of evaluation that addresses all purposes.

Professional development may differ among teachers. Tenured teachers meeting district expectations will be given more choice and individual responsibility in developing their PDPs within the parameters of the building and district goals. Non-tenured teachers will develop plans based on their developmental level and interaction with the administrator/supervisor.

Performance-Based Teacher Evaluation

Non-Tenured Teachers

Teacher Evaluation Phase

(Annual Cycle)

- Teacher collected data
- Data requested byAdm./Supervisor
- Planned/Unplanned data
- Frequent "drop-in" observations

Tenured Teachers

Teacher Evaluation Phase

(Five-Year Cyle)

Unless more often as determined by administrator/supervisor

- Teacher collected data
- Data requested by Adm./Supervisor
- Planned/Unplanned data

Administrator/Supervisor Collected Data

- Classroom observations
- Pre- and post-observation conferences
- Data collection
- Evaluation report
- Contract decision made

Teacher's Choice

Professional Development Phase

(Annually)

- Mentors for 1st-year teachers and recommended for 2nd-year teachers
- Professional development portfolio
- Adm/Supervisor directed collaborative PDP for 3rd-5th year teachers and teachers new to the district
- PDPs address criteria, building goals and comprehensive school improvement plans

Professional Development Phase

(Annually)

- Teacher chooses PDP option with Administrator/Supervisor approval unless receiving formal evaluation
- May work with colleague
- PDP's address criteria, building goals and comprehensive school improvement plan

Improved Student Performance / Improving Teachers / Attaining School Improvement Goals

Professional Development/ Teacher Evaluation Cycles

Non-Tenured Teacher Professional Development/ Evaluation Cycle

Professional Development Phase

The professional development phase involves teachers working with one another in confidential and collegial professional relationships. Professional interaction allows teachers the opportunity to reflect on practices that relate to student success. During the professional development phase, teachers are able to engage in supportive dialogue and growth outside of the evaluation phase.

A mentor is to be provided for first-year teachers. A mentor should also be provided for teachers in their second year. The mentor should assist the teacher in developing her/his evaluation portfolio and should observe and be observed by the 1st/2nd-year teacher. Time for planning and interacting should be provided for both the mentor and 1st/2nd-year teacher. Districts should provide adequate training for mentors in order for this phase to be effective.

The mentor should observe the 1st/2nd-year teacher teaching a lesson and provide for reflective feedback prior to the 1st/2nd-year teacher being observed by the administrator/supervisor. Legally, the mentor shall never take part in any formal evaluative activities of the non-tenured teacher.

A non-tenured teacher in years 3-5 may not have a mentor but should receive direction by the administrator/supervisor or his/her designee in developing a Professional Development Plan (PDP). The PDP will have a developmental or enrichment focus. The type of PDP will be determined by the administrator/supervisor based on data. The administrator/supervisor may recommend the non-tenured teacher to a peer coaching team, may suggest working with a tenured teacher, or may allow the teacher to work with a tenured teacher plan option (see tenured teachers options on page 9). Flexibility and collaboration are vital to this aspect of the model.

Evaluation Phase

Data Collection

The evaluation phase involves data collection that documents teaching competence (see criteria with descriptors, page 17). Performance data collection is a collaborative process involving both the teacher and the administrator/supervisor. The administrator/supervisor will purposefully collect data from sources such as classroom observations, conferences, videotapes or could obtain unplanned data. The teacher is responsible to develop a portfolio that documents performance on each of the criteria. Additional artifact data may be requested by the administrator/supervisor. The data collected is reviewed and recorded on the Comprehensive Data Collection Form (see Appendix B).

Observed data are those witnessed by the administrator/supervisor, non-observed data are those shared with the administrator/supervisor, and unplanned data are unsolicited data received by the administrator/supervisor. These data may be classified as observed, non-observed, or artifacts (documents created by the teacher related to practice or examples of student work).

The administrator/supervisor will review all data and determine significance in documenting specific criteria. If the data are deemed significant, the administrator/supervisor will document the data on the Comprehensive Data Collection Form and place the form in the teacher's working file. All data included in the teacher's working file should be discussed with

the teacher and initialed by both parties prior to being placed in the file.

Observations

During each of the first three years of the evaluation cycle, non-tenured teachers will have a minimum of one scheduled and two unscheduled observations. During the remaining non-tenured years, a minimum of one scheduled and one unscheduled observation will be conducted annually. Previous to the scheduled observation, a pre-observation conference should be scheduled. Each observation should be followed by a collaborative conference between the teacher and the administrator/supervisor. Appendix A provides a variety of forms that may be used by the administrator/supervisor for such conferences. Review of the teacher's professional portfolio may also be included in the post-observation conference. All data reviewed should be recorded on the Comprehensive Data Collection Form (Appendix B) and initialed by the teacher and administrator/supervisor. In addition to the normal classroom observations, frequent "drop-in" observations by the administrator/supervisor are recommended.

If the non-tenured teacher is not meeting expectations on the performance criteria, a Professional Improvement Plan (PIP) should be implemented as appropriate (Appendix C). The PIP should be in response to an observed deficiency or in response to an artifact document or other information that indicates concern regarding a specific criterion. The PIP should be discussed and presented to the teacher within a set period of time as established by district policy. The mentor may also assist the non-tenured teacher in the remediation of deficiencies as listed in a PIP, but the mentor's involvement shall not become part of the formal evaluation process.

While the Professional Improvement Plan should represent consensus between the teacher and the administrator/supervisor, in cases in which disagreement arises, the decision of the administrator/supervisor is final.

Evaluation Report

The Evaluation Report consists of administrative review and assessment of all aspects of teaching performance, as identified on the PBTE Standards and Criteria (page 15). The annual evaluation review for the non-tenured teacher consists of an Evaluation Report and the Evaluation Conference. The Evaluation Report will be used to formally summarize the administrator's/supervisor's assessment of the teacher's performance, based on the data collected. The report will require the administrator/supervisor to recommend the teacher for renewal or non-renewal of employment. The teacher and administrator/supervisor will conference, discuss, and sign the Evaluation Report by the appropriate date.

Tenured Teacher Professional Development/ Evaluation Cycle

Professional Development Phase

The professional development phase for the tenured teacher is facilitated by the administrator/supervisor. The teacher, working collaboratively with colleagues and with the approval of his or her administrator/supervisor, is responsible for the development and completion of the plan. Tenured teachers who have met all performance expectations should have the opportunity to select from Professional Development Plan options during non-evaluative years. As part of the process, each teacher will conduct a self-assessment, select (together with the administrator/supervisor) suitable goals for focus, and then develop and implement a Professional Development Plan. This should occur on an annual basis; however, Professional Development Plans may be of multi-year design and may involve collaboration with colleagues. The plan can be revised or changed by joint agreement of the teacher and the administrator/supervisor at any time. The tenured teacher will conduct the entire process, resulting in documentation of enhanced skill and reflection. The data are collected and maintained by the teacher and are used in year-end conferences with the administrator/supervisor. Teachers should retain their Professional Development Plans and respective information and may use them in documenting criteria during the fifth-year evaluation phase.

The administrator/supervisor and teacher should conference early in the school year or prior to school to discuss the teacher's options for the professional development process. This should allow the administrator/supervisor to know both the areas in which the teacher wishes to focus and those aspects of practice which the teacher believes can make a contribution to the work of colleagues. Each teacher must submit a completed proposal form to his/her administrator/supervisor for approval prior to beginning the process (local districts to determine date). In some cases, the teacher may wish to determine a plan prior to the end of the previous school year. This would allow the teacher the opportunity to integrate district-provided professional opportunities, graduate work, summer workshops, travel, or other events into the plan.

Professional collaboration may take many forms — from processes of two or three exchanges of observations, planning, and reflecting to comprehensive projects in which teams of teachers collaborate in a variety of aspects of the instructional process or curriculum development process.

Professional Development Plan Options

Tenured teachers will be formally evaluated on a 5-year cycle. The administrator/supervisor has the responsibility to observe the teacher on a regular basis and may receive unplanned data. A tenured teacher not meeting expectations on a criterion may be reassigned from the professional development phase to the evaluation phase. If the administrator/supervisor determines the teacher is not meeting expectations, a PIP should be put in place.

Tenured teachers meeting expectations participate in the professional development phase. Documentation of participation in the Options Model may be accomplished through the use of various tools and/or procedures, such as portfolios, videos, reflective journals, or professional dialogue with peers and/or administrator/supervisor. The administrator/supervisor is expected to serve as a resource and monitor the progress of the staff participating in this model.

Some of the options that teachers might consider are outlined on page 9. These options should be chosen only if teachers have received training or are knowledgeable about the option chosen.

Samples of Professional Development Options

Option A

Mentor Teacher

This option allows the tenured teacher to reflect on what he/she is doing with the 1st/2nd-year teacher and associate this with his/her own practice. The teacher receives mentor training as prescribed in the Professional Development Plan of the district. The teacher uses a self-reflection log to document the activities and/or work done with the 1st/2nd-year teacher in accordance with duties as outlined by the Professional Development Committee. The teacher assists the 1st/2nd-year teacher with the development of his/her portfolio by making suggestions and offering advice. The time and dates of observations completed by the teacher for the 1st/2nd-year teacher and the time and dates of conferences held with the 1st/2nd-year teacher are documented. The teacher uses the documentation to write a reflection of the experiences and how it has effected the teacher's own practices. This plan should specifically relate to criteria and school improvement goals.

Option B

Action Research Team

This option allows two to five colleagues to work together toward a common goal. Topics should relate to one or more specific criteria and to a School Improvement Plan goal. The Action Research could tie in with existing district or school programs such as A+ School or MAP teams or could open new areas of research. The Action Research should be approved by the administrator/supervisor. The topic for research could be an issue, strategy or theme such as lowering dropout rate, cooperative learning, or building teams. Each teacher involved should maintain his/her own data to document the research. The document could include written information such as scoring guides, surveys, instructional strategies, and performance tasks. The data should also include at least three points of view such as student, parent, other colleague, administrator or business partner. This plan should specifically relate to criteria and school improvement goals.

Option C

Professional Review Process

This option allows the teacher to use individual reflection to grow professionally. The teacher should be videotaped during three or more teaching sessions, focusing on one or more criteria. His/her lesson should be self-evaluated using a written format. An outside observer, such as a peer, supervisor, STARR teacher, business partner, or representative from an educational agency or university staff development program could also observe the teacher. The teacher should document, by written reflection, the observation and the conference held with the outside observer. The teacher's reflection portfolio documents the process of reviewing his/her own teaching practices with the data received from the observers, the reflections, survey results, and a final reflective piece on her/his professional growth during the process. This plan should specifically relate to criteria and school improvement goals.

Option D

Individualized Professional Activity

This option allows the teacher to work individually on specific areas approved by the administrator/supervisor. This will likely be based on curriculum development, program development, or use of technology. This plan should establish a connecting relationship with specific criteria and school improvement goals.

Option E

Collaborative Professional Plan

This option allows the tenured teacher to interact with colleagues focusing on particular teaching behaviors. This could be accomplished through peer coaching, a study group, or other forms of collaborative teams. This plan should specifically relate to criteria and school improvement goals.

Option F

School-Wide/District-Wide Action Research

This option allows the tenured teacher with significant experience to work collaboratively on a project outlined in a school/building School Improvement Plan or a Comprehensive School Improvement Plan. Teams may be developed to represent a specific grade level, subject, common technology implementation, or cross discipline/cross district teams. The project must be approved by the administrator/supervisor. Examples of such projects might be the developing of tasks to evaluate programs or curriculum articulation. This plan should specifically relate to criteria and school improvement goals.

Evaluation Phase

The tenured teacher participates in the evaluation phase on a five-year cycle unless the administrator/supervisor determines a more frequent schedule is appropriate. Although the tenured teacher will be formally evaluated over a one-year period, the teacher may want to maintain data on each criterion during the Professional Development Phase. Therefore, during the Evaluation Phase it will be less time-consuming to provide documentation. It is recommended that the PDPs be retained and the teacher may choose to use them as evidence of meeting acceptable standards on one or more of the criteria. In addition to the normal classroom observations, frequent "drop-in" observations by the administrator/supervisor are encouraged each year.

Data Collection

The evaluation phase involves data collection that documents teaching competence (see criteria and descriptors, page 17). Performance data collection is a collaborative process involving both the tenured teacher and the administrator/supervisor. The administrator/supervisor will purposefully collect data from sources such as classroom observations, conferences, viewing videotapes and unplanned data. The tenured teacher will be responsible to develop a portfolio that documents performance on each of the criteria. Additional artifact data may be requested by the administrator/supervisor. The data collected will be reviewed and recorded on the Comprehensive Data Form (see Appendix B).

Observed data are those witnessed by the administrator/supervisor, non-observed data are those shared with the administrator/supervisor, and unplanned data are unsolicited data received by the administrator/supervisor. These data may be classified as observed, non-observed, and artifact (documents created by the teacher related to practice or examples of student work).

The administrator/supervisor will review all data and determine significance in documenting specific criteria. If determined significant, the administrator/supervisor will document the data on the Comprehensive Data Collection Form and place the form in the tenured teacher's working file. All data included in the teacher's working file should be discussed with the teacher and initialed by both parties prior to entering the file.

Observations

During the formal evaluation year, tenured teachers will have a minimum of one scheduled and one unscheduled observation. Each observation will be followed by a collaborative conference between the tenured teacher and the administrator/supervisor. For the scheduled observation, a pre-observation conference should be held. Appendix A provides a variety of forms that may be used by the administrator/supervisor for such conferences. The conference may also involve a review of documents related to specific performance criteria. All data reviewed should be recorded on the Comprehensive Data Collection Form and initialed by the tenured teacher and administrator/supervisor.

If a tenured teacher is not meeting expectations on a performance criterion, a PIP should be implemented.

Evaluation Report

The Evaluation Report consists of administrative review and assessment of all aspects of teaching performance as identified by the PBTE Standards and Criteria (page 15). The evaluation review for the tenured teacher consists of an Evaluation Report and the evaluation

conference. The Evaluation Report will be used to formally summarize the administrator's/supervisor's assessment of the tenured teacher's performance based on the data collected. The report will require the administrator/supervisor to recommend the tenured teacher for renewal or non-renewal of employment. The teacher and administrator/supervisor will conference, discuss, and sign the Evaluation Report at the appropriate date.

Teachers who are not meeting all criteria should not be allowed to participate in the Professional Development Phase the following year.

Review and Appeal

Non-tenured and tenured teachers both have the opportunity to dispute information on the Evaluation Report. Written comments can be provided by either party (administrator/supervisor or teacher) and included with the report. Written comments by either party must be shared within a set amount of time as determined by the district and appended to the original copy of the Evaluation Report. The teacher, the administrator/supervisor and the Human Resources Office will retain copies of the report.

Specifics of the review process should be determined by board policy.

System Review

The superintendent should initiate a periodic review of the evaluation system to promote the maintenance of an effective, fair, and efficient system that is comprehensive and performance-based.

Evaluation Timeline

	Non Tenured					Tenured				
Year	1	2	3	4	5	1	2	3	4	5
Formal Evaluation	Yes	Yes	Yes	Yes	Yes	**	**	**	**	Yes
Scheduled Observation	1	1	1	1	1	-	-	-	-	1
Non-Scheduled Observation	2	2	2	1	1	-	-	-	-	1
Drop-In Observation	F R E Q U E N T					F R E Q U E N T				
PDP D-development E-enrichment	Yes (D)	Yes (D)	Yes (D or E)*	Yes (D or E)*	Yes (D or E)*	Yes (E)	Yes (E)	Yes (E)	Yes (E)	PDP should align with portfolio
Portfolio Required	Yes	Yes	Yes	Yes	Yes	No- PDP Options	No- PDP Options	No- PDP Options	No- PDP Options	Yes- could be collected during 5 years
Administrator Observes Classroom	Administrator meets to discuss management of portfolio and PDP early in the school year.					Administrator meets to overview School Improvement plan and explain PDP early in school year.				
Administrator and Teacher Meet	Administrator observes classroom instruction with pre- and post-observation conferencing as appropriate.					Administrator observes classroom instruction with pre- and post-observation conferencing as appropriate.				
Data Collection	Teacher and administrator collect data throughout the year; data for evaluation purposes must be available by dates established by administrator.					Teacher implements PDP early in the school year; data for evaluation puposes must be available by dates established by administrator.				
Evaluation Report	Administrator holds conference to review data collected and completes evaluation report per district deadline.					Administrator holds conference to review PDP or, if on evaluation, all data collected and completed. Evaluation report per district deadline.				

* Indicates administrator/supervisor and option to whether developmental or enrichment plan will be implemented.

** Indicates observation, only if needed, as determined by administrator/supervisor.

Drop-in observations by the administrator/supervisor are encouraged on a frequent basis. A drop-in observation does not necessarily require formal written documentation. However, the administrator/supervisor may choose to document specific behaviors or events

Each Evaluation Report requires a complete Comprehensive Data Form. This is yearly for non-tenured teachers and on a five-year cycle for tenured teachers.

Data Collection Forms

During the Teacher Evaluation Phase the administrator/supervisor and teacher cooperatively gather data in order to document the teacher "meeting expectations" on all 20 criteria. The use of the data collection forms may vary based on the classification of the teacher. The administrator/supervisor may request certain forms to be completed by the teacher in order to complete the data collection. The pre- and post-conference data collection forms found in Appendix A (Lesson Plan Review, Professional Observation Record, Supplemental Professional Observation Report, and Lesson Reflection Sheet), may be used by the administrator/ supervisor as necessary to secure adequate documentation on teachers. The Comprehensive Data Collection Form, found in Appendix B, is used to record the review of the criteria documentation and the level of performance. This review is an annual cycle for non-tenured teachers and occurs on a five-year cycle for tenured teachers. The Professional Observation Record, found in Appendix A, is used for all teachers during classroom observation by the administrator/supervisor.

Professional Plans

All teachers should have an annual Professional Development Plan approved by the administrator/supervisor. There are two types of professional plans: the Professional Development Plan and the Professional Improvement Plan.

Professional Development Plan

First- and Second-Year Teachers

All first- and second-year teachers are required to have a Professional Development Portfolio. The portfolio will document "teacher performance" on all twenty criteria. Some documentation will be provided by the administrator/supervisor as a result of formal observations. The mentor should assist the teacher in selecting entries for the portfolio.

3-5 Year Teachers

Teachers in years 3-5 will develop a Professional Development Plan with administrator/supervisor approval. Although a criterion portfolio is still required, the administrator/supervisor may allow some teachers to develop an enrichment plan while others continue with the developmental aspect of the portfolio. The administrator/supervisor may recommend the non-tenured teacher to a peer coaching team, may suggest working with a tenured teacher, may allow the teacher to work with tenured teachers on an option plan (page 9) or develop other options.

Tenured Teachers

Tenured teachers complete application for the annual Professional Development Plan (enrichment) based on self-evaluation and discussion with colleagues and administrators/supervisors. Tenured teachers then determine an area of practice that is focused around one or more criteria and specific school improvement goals. The administrator/supervisor may have his/her own suggestions for suitable areas of growth for each tenured teacher. The conference provides opportunity for the administrator/supervisor and the tenured teacher to compare notes on perceptions of need and then arrive at consensus regarding the Professional Development Plan. While the Professional Development Plan should represent consensus between the teacher and the administrator/supervisor, in cases in which significant disagreement arise, the decision of

the administrator/supervisor is final.

Teachers may also find that they can profit from a multi-year professional growth plan. This may involve collaboration with colleagues or may be more individualized depending on the option chosen. Offerings from the district's Professional Development Committee, as well as training opportunities from other sources, may be incorporated into the Professional Development Plans of teachers. The plan is submitted to the administrator/supervisor early in the school year prior to the date set by the district. Some teachers may choose to submit applications prior to the end of a school for the next school year. This would allow local district professional development offerings, graduate work, summer seminars, or travel to be used in developing a plan. Year-end conferences regarding the tenured teachers' Professional Development Plan should occur on a date determined appropriate by the district.

The administrator/supervisor may require the tenure teacher to file a PDP (developmental) as the need arises.

Professional Improvement Plan

The Professional Improvement Plan (PIP) is used to assist teachers in correcting a documented deficiency of one or more criteria. The administrator/supervisor can assign a Professional Improvement Plan at any time a deficiency is noted.

The administrator/supervisor should notify the teacher of the deficiency evidenced by an event or document leading to the decision within a set amount of time as determined by the district.

While the Professional Improvement Plan should represent consensus between the teacher and the administrator/supervisor, in cases in which significant disagreement arises, the decision of the administrator/supervisor is final. Upon completion of the PIP, the administrator/supervisor may allow the teacher to return to their selected PDP.

Evaluation Report

The Evaluation Reports, found in Appendix D, provide a means of synthesizing all the information obtained during the data collection phase. Each list provides specific criteria for each standard. Each criterion is rated according to the performance level demonstrated and documented on the Comprehensive Data Collection Form.

A rating of "progressing toward meeting expectations" or "does not meet expectations" should be preceded by efforts to improve that performance through the use of a Professional Improvement Plan. A rating of "progressing toward meeting expectations" or "does not meet expectations" means the teacher is not meeting that criterion at an acceptable level. An appropriate plan for improvement should be continued or a decision regarding employment should be determined. A tenured teacher receiving such a rating should not be eligible for a PDP option the following year.

Standards and Criteria for Performance-Based Teacher Evaluation

Standard 1: **The teacher causes students to actively participate and be successful in the learning process.**

Criterion 1: The teacher causes students to acquire the knowledge and skills to gather, analyze and apply information and ideas.

Criterion 2: The teacher causes students to acquire the knowledge and skills to communicate effectively within and beyond the classroom.

Criterion 3: The teacher causes students to acquire the knowledge and skills to recognize and solve problems.

Criterion 4: The teacher causes the students to acquire the knowledge and skills to make decisions and act as responsible members of society.

Standard 2: **The teacher uses various forms of assessment to monitor and manage student learning.**

Criterion 5: The teacher uses various ongoing assessment to monitor the effectiveness of instruction.

Criterion 6: The teacher provides continuous feedback to students and family.

Criterion 7: The teacher assists students in the development of self-assessment skills.

Criterion 8: The teacher aligns the assessments with the goals, objectives, and instructional strategies of the district curriculum guides.

Criterion 9: The teacher uses assessment techniques that are appropriate to the varied characteristics and developmental needs of students.

Standard 3: **The teacher is prepared and knowledgeable of the content and effectively maintains students' on-task behavior.**

Criterion 10: The teacher demonstrates appropriate preparation for instruction.

Criterion 11: The teacher chooses and implements appropriate methodology and varied instructional strategies that address the diversity of learners.

Criterion 12: The teacher creates a positive learning environment.

Criterion 13: The teacher effectively manages student behaviors.

Standard 4: **The teacher communicates and interacts in a professional manner with the school community.**

Criterion 14: The teacher communicates appropriately with students, parents, community, and staff.

Criterion 15: The teacher engages in appropriate interpersonal relationships with students, parents, community, and staff.

Standard 5: **The teacher keeps current on instructional knowledge and seeks and explores changes in teaching behaviors that will improve student performance.**

Criterion 16: The teacher engages in professional development activities consistent with the goals and objectives of the building, district, and state.

Criterion 17: The teacher engages in professional growth.

Standard 6: **The teacher acts as a responsible professional in addressing the overall mission of the school district.**

Criterion 18: The teacher adheres to all the policies, procedures and regulations of the building and district.

Criterion 19: The teacher assists in maintaining a safe and orderly environment.

Criterion 20: The teacher collaborates in the development and/or implementation of the district's vision, mission, and goals.

Teacher Evaluation Criteria with Descriptors

Note: The descriptors provided are simply examples of student and teacher behaviors that may be used to document criteria. The descriptors provided are not intended to be an all inclusive list. The observation and/or documentation of each criterion will vary based on the context.

* Items represent descriptors that may be more pertinent to special services teachers.

Standard 1: **The teacher causes the students to actively participate and be successful in the learning process.**

Criterion 1: The teacher causes students to acquire the knowledge and skills to gather, analyze, and apply information and ideas.

The students will:

1. Develop questions and ideas to initiate and refine research.
2. Conduct research to answer questions and evaluate information and ideas.
3. Use technological tools and other resources to locate, select, and organize information.
4. Comprehend and evaluate written, visual, and oral presentations and works.
5. Discover and evaluate patterns and relationships in information, ideas, and structures.
6. Organize data, information, and ideas into useful forms (including charts, graphs, and outlines) for analysis and presentation.
7. Identify, analyze and compare the institutions, traditions, and art forms of the past and present societies.
8. Apply acquired information, ideas, and skills to different contexts as students, workers, citizens and consumers.

Criterion 2: The teacher causes students to acquire the knowledge and skills to communicate effectively within and beyond the classroom.

The students will:

1. Plan and make written, oral, and visual presentations for a variety of purposes and audiences.
2. Review and revise communications to improve accuracy and clarity of information.
3. Exchange information, questions, and ideas while recognizing the perspectives of others.
4. Present perceptions and ideas regarding works of the arts, humanities, and sciences.
5. Perform or produce works in the fine and practical arts.
6. Apply communication techniques to the job search and the workplace.
7. Use technological tools to exchange information and ideas.

Criterion 3: The teacher causes students to acquire the knowledge and skills to recognize and solve problems.

The students will:

1. Identify problems and define their scope and elements.

2. Develop and apply strategies based on ways others have prevented or solved problems.
3. Develop and apply strategies based on one's own experience in preventing and solving problems.
4. Evaluate the processes used in recognizing and solving problems.
5. Reason inductively from a set of specific facts and deductively from general premises.
6. Evaluate the extent to which a strategy addresses the problem.
7. Assess costs, benefits, and other consequences of proposed solutions.

Criterion 4: The teacher causes students to acquire the knowledge and skills to make decisions and act as responsible members of society.

The students will:

1. Explain reasoning and identify information used to support decisions.
2. Understand and apply the rights and responsibilities of citizenship in Missouri and the United States.
3. Analyze the duties and responsibilities of individuals in society.
4. Recognize and practice honesty and integrity in academic work and in the workplace.
5. Develop, monitor, and revise plans of action to meet deadlines and accomplish goals.
6. Identify tasks that require a coordinated effort and work with others to complete those tasks.
7. Identify and apply practices that preserve and enhance the safety and health of self and others.
8. Explore, prepare for, and seek educational and job opportunities.

Standard 2: The teacher uses various forms of assessment to monitor and manage student learning.

Criterion 5: The teacher uses various ongoing assessment to monitor the effectiveness of instruction.

The teacher:

1. Applies a variety of formal and informal assessment techniques (e.g., observations, portfolios of student work, teacher-made tests, performance tasks, projects, student self-assessments, authentic assessments, and standardized tests) to enhance and monitor his or her knowledge of learning, to evaluate student progress and performances and to modify instructional approaches and learning strategies.
2. Collects information through observation of classroom interaction, and questions and analyzes student work.
3. Designs and uses assessments that support the transfer of learning to real life.
4. Makes appropriate modifications in assessments in accordance with students' IEPs.*
5. Employs district adopted assessment techniques.*
6. Other...

Criterion 6: The teacher provides continuous feedback to students and family.

The teacher :

1. Maintains useful records of student work and performance and shares the information with the student.
2. Provides feedback to students regarding the quality of performance.
3. Contacts parents promptly regarding concerns related to the student's academic or behavioral performance.
4. Makes regular contacts with parents regarding students' IEP progress.*
5. Provides parents with information regarding program background and purpose.*
6. Other...

Criterion 7: The teacher assists students in the development of self-assessment skills.

The teacher:

1. Uses assessment strategies to involve learners in self-assessment activities, assist them in becoming aware of their learning behaviors, strengths, needs and progress, and encourages them to set personal goals for learning.
2. Develops scoring guides for students to use in assessing the quality of their work.
3. Other...

Criterion 8: The teacher aligns the assessments with the goals, objectives, and instructional strategies of the district curriculum guides or IEPs.

The teacher:

1. Uses assessments which correlate to the method of instruction and the district curriculum guide/IEPs.
2. Assigns meaningful activities or homework that are timed to assist the student in understanding.
3. Assigns homework that supports the students' understanding of content.
4. Uses assessments which correlate to the methods of instruction.
5. Other...

Criterion 9: The teacher uses assessment techniques that are appropriate to the varied characteristics and developmental needs of students.

The teacher:

1. Uses assessment data to adjust instructional strategies appropriately for desired learner outcomes.
2. Uses assessment techniques that allow for a variety of multiple intelligences to be used by students.
3. Uses student portfolios to assess students' work in a developmental manner.
4. Uses a variety of communication tools to report student progress.
5. Provides scoring guides, as appropriate, to students prior to assessing work.
6. Makes modifications of assessment procedures, as appropriate.
7. Other...

Standard 3: The teacher is prepared and knowledgeable of the content and effectively maintains students' on-task behavior.

Criterion 10: The teacher demonstrates appropriate preparation for instruction.

The teacher:

1. Prepares lessons which reflect a strong understanding of the content.
2. Implements lessons which link students' prior knowledge with new ideas and/or provides effective anticipatory set.
3. Designs lessons in clear and logical formats.
4. Selects and creates learning experiences that are appropriate for curriculum goals/IEPs, relevant to learner and based upon principles of effective instruction.
5. Evaluates plans relative to long and short-term goals and adjusts them to meet students' individual needs/IEP and to enhance learning.
6. Provides effective anticipatory set to prepare the students for the learning experience.
7. Clearly states the expected learning objectives to the students.
8. Utilizes district and/or community resources to implement instruction.
9. Provides resource teachers with advance knowledge of lessons, tests, dates of project deadlines, and scoring guides.
10. Conferences with classroom teacher prior to lessons to make appropriate modifications for special service students.*
11. Prepares lessons which are aligned with IEP objectives.*
12. Other...

Criterion 11: The teacher chooses and implements appropriate methodology and varied instructional strategies that address the diversity of the learner.

The teacher:

1. Identifies students' prior experiences, learning styles, strengths and needs when designing and implementing a lesson plan.
2. Demonstrates the ability to access specialized services to meet students' needs.
3. Selects alternative teaching strategies, materials, and technology to achieve multiple instructional purposes and then meets student needs. (e.g. lecturing, modeling, questioning, experimental learning, role playing, Socratic seminar, and project based learning).
4. Provides opportunity for guided and independent practice.
5. Provides effective closure of the lesson.
6. Creates lessons and activities that recognize individual needs of diverse learners and variation in learning styles and performance.
7. Implements IEP goals for identified students.*
8. Modifies students' participation in learning activities based on ability and need.*
9. Identifies students with possible special needs and refers them to appropriate resource.
10. Other...

Criterion 12: The teacher creates a positive learning environment.

The teacher:

1. Creates a positive learning environment where students feel comfortable and willing to engage in learning.
2. Arranges and maintains a safe and functional classroom or workspace.
3. Interacts with students in a professional and courteous manner.
4. Connects learning to students' prior experiences with family, culture and community.
5. Creates an environment which promotes mutual respect.
6. Provides for well-structured learning activities that encourage students to pay attention and participate.
7. Manages time, space, transitions, and activities effectively.
8. Contributes to maintaining the positive classroom environment (class within a class environment).*
9. Other...

Criterion 13: The teacher effectively manages student behaviors to promote learning.

The teacher:

1. Encourages student responsibility in the classroom.
2. Avoids using emotionally charged language in dealing with behavioral disruptions.
3. Makes effective use of preventive strategies (proximity, eye contact, non-verbal cues, position and movement).
4. Manages discipline infractions in accordance with school policy.
5. Applies classroom discipline appropriately.
6. Intervenes during inappropriate behavior.
7. Recognizes and reinforces appropriate student behavior.
8. Communicates expectations and parameters for student classroom behavior.
9. Reinforces the classroom teacher's rules (class within a class environment).*
10. Other...

Standard 4: The teacher communicates and interacts in a professional manner with the school community.

Criterion 14: The teacher communicates appropriately with students, parents, community, and staff.

The teacher:

1. Models effective verbal/non-verbal communication skills.
2. Demonstrates sensitivity to cultural, gender, intellectual, and physical ability differences in classroom communication and in response to students' communications.
3. Uses a variety of media communication tools (e.g. video, multimedia, laserdisk, internet).

4. Writes documents in a professional manner.
5. Provides clear and concise oral and written directions.
6. Uses effective active listening skills (e.g. affirmation of understanding, eye contact, attentiveness, restating, and paraphrasing).
7. Reviews IEP's with all stakeholders to convey all special needs of each student with an IEP.*
8. Talks, listens and is responsive to students.
9. Seeks appropriate assistance as needed to support students with intellectual, emotional, or physical problems.
10. Provides information regarding individual students; IEP to classroom teacher as appropriate.*
11. Other...

Criterion 15: The teacher engages in appropriate interpersonal relationships with students, parents, community, and staff.

The teacher:

1. Offers appropriate encouragement to all students.
2. Expresses views and ideas to others in a professional manner.
3. Handles confidential information and difficult situations ethically and with discretion.
4. Seeks opportunities to develop cooperative partnerships with the parents/guardians of students in support of student learning and well being.
5. Conveys expectations to parents/guardians of shared responsibilities in the learning process.
6. Identifies and uses the appropriate school personnel and community resources to help students reach their full potential.
7. Supports parent/staff activities.
8. Is responsive to parents desiring a conference during regular school hours.
9. Provides pertinent information during parent/teacher conferences.
10. Collaborates with special education teachers regarding students with IEPs.
11. Collaborates with classroom teacher regarding the IEP needs of special services students.*
12. Other...

Standard 5: The teacher keeps current on instructional knowledge and seeks and explores changes in teaching behaviors that will improve student performance.

Criterion 16: The teacher engages in professional development activities consistent with the goals and objectives of the building, district and state.

The teacher:

1. Uses varied building, district, state, or national resources available for professional development.

2. Participates in school and district inservice activities as appropriate.
3. Maintians appropriate knowledge of current state and federal laws regarding special services students.*
4. Participates in activities that encourage collective inquiry regarding teaching and learning.
5. Other...

Criterion 17: The teacher engages in professional growth.

The teacher:

1. Applies a variety of self-assessment and problem-solving strategies for reflecting on practice, on his/her influence on students' growth and learning, and on the complex interactions between them.
2. Increases knowledge base related to professional responsibilities.
3. Increases knowledge of learning theory.
4. Applies new understanding of learning theory to the classroom.
5. Works cooperatively to develop and implement a professional development/growth plan.
6. Disseminates information obtained from professional development opportunities with faculty/staff as appropriate.
7. Documents continuing education units required for state certification.
8. Other...

Standard 6: **The teacher acts as a responsible professional in addressing the overall mission of the school district.**

Criterion 18: The teacher adheres to all the policies, procedures and regulations of the building and district.

The teacher:

1. Stays informed regarding policies and regulations applicable to his/her position.
2. Follows the identified channels for resolving concerns/problems.
3. Complies with school policy on attendance and punctuality.
4. Completes duties promptly and accurately when given adequate notice.
5. Complies with school policy and guidelines on copyright.
6. Complies with school policy and guidelines regarding student confidentiality.
7. Maintains IEP records according to district policy.*
8. Other...

Criterion 19: The teacher assists in maintaining a safe and orderly environment within the school setting.

The teacher:

1. Performs school supervisory tasks.

2. Exercises responsibility for student management on school property and at school activities during school days.
3. Regularly communicates safety issues for individual students to classroom teachers and administrators.*

Criterion 20: The teacher collaborates in the development and/or implementation of the district's vision, mission, and goals.

The teacher:

1. Participates in professional activities designed to make the entire school a productive learning environment.
2. Participates, as appropriate, in Missouri School Improvement Plan, Comprehensive School Improvement Plan, School Improvement Plan and committee work.
3. Participates in all phases of the evaluation process to effect ongoing professional growth.
4. Other...

Glossary

Action Research – A process in which the teacher plans, takes action, collects data, and makes a decision based on the collected data regarding professional practice.

Administrator/Supervisor– The personnel authorized to implement the evaluation process.

Artifact Data – Documents or tangible items of information related to performance. Artifacts are typically supplied by the teacher but may be collected from another related source.

Comprehensive Data Collection Form – The form used to document all planned and unplanned data during the teacher evaluation cycle.

Criteria – The items used to evaluate the teacher's performance. The criteria describe the behavior of the students and teacher or the skill of the teacher related to effective performance.

CSIP- Comprehensive School Improvement Plan.

Descriptors – Descriptors are phrases that aid in defining and outlining the expected behavior for a particular criterion. The descriptors are not an all-inclusive listing of behaviors that might be associated with a criterion.

Drop-In Observation – An unscheduled, informal visit to the classroom by the administrator/supervisor. Data collection is not necessary but may occur as the administrator/supervisor deems appropriate.

Evaluation Review – The form used to summarize the administrator's/supervisor's rating of performance for each criterion at the end of the teacher evaluation process.

Mentor – The experienced teacher who is assigned and given time to guide and support a first- or second-year teacher in the district.

Peer Coach – A teacher who collaborates with another teacher for mutual support and instructional improvement.

Planned Data – Data regarding a teacher, related to a specific criteria and collected by the administrator/supervisor.

Portfolio– A teacher's collection of data reflecting performance, development, and involvement in professional activities that reflect criteria, building goals, and the Comprehensive School Improvement Plan.

Professional Development Phase - A system designed to help teachers improve on an ongoing basis.

Post-Observation Conference – A collaborative conference between the administrator/supervisor and the teacher about data collected during an observation and other data submitted by the teacher.

Pre-Observation Conference- The interaction between administrator/supervisor and teacher during which the lesson is previewed, and the purpose, time, length, and location of the observation are confirmed. In some cases, a form will be completed by the teacher prior to the conference.

Professional Development Plan – A plan developed by a teacher to formalize and document professional growth. The choice for each teacher will depend upon his/her development level.

Professional Improvement Plan – A plan that assists teachers in attaining a satisfactory level of performance on a criterion.

Scheduled Observation – A planned observation of performance that includes pre-observation discussion, the observation and documentation, and post-observation discussion used to collect data for the teacher evaluation phase.

System Review – The process for periodic review of the evaluation system.

Teacher- All classroom teachers including special services teachers. This does not include counselors/librarians and administrators.

Teacher Evaluation Phase – The process of collecting data and making professional judgments about performance for the purpose of personnel decision-making.

Unscheduled Observation – An unannounced observation of twenty minutes or more, used to collect data for the teacher evaluation phase.

Unplanned Data – Unsolicited data regarding a teacher, related to a specific criterion and collected by the administrator/supervisor.

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Appendix A

Lesson Plan Review
Professional Observation Record
Supplemental Professional Observation Record
Lesson Reflection Sheet

Lesson Plan Review

The Lesson Plan Review is to be completed by the teacher and given to the administrator/ supervisor at/or before a pre-observation conference. This form is used by the administrator/supervisor to gain insight into the teacher's reflective understanding regarding lesson planning and may be used to document criteria.

Teacher_____School_____

Grade/Subject_____Date_____/_____/_____

1. Briefly describe the lesson and students.

2. What objectives and activities will be used that are a part of the district's curriculum guide? What do you expect the students to be able to know or do at the end of this lesson? How does this relate to what the students should be able to know and do at the end of this unit?

3. Why are these goals suitable for the students?

4. How does the lesson plan provide for students to engage in work? What will the students do?

5. What difficulties do students typically experience in this area, and how do you plan to address those difficulties and enable students to persist in the work?

* If more space is needed, please add additional pages.

6. What instructional materials or other resources will you use?

7. How do you plan to assess student achievement? What procedure will you use? What products will the students produce? (Attach tests or performance tasks and include scoring guides.)

8. Is there anything about the learning environment that you think might affect your students during the observation?

9. What are the most important classroom routines, procedures, rules and expectations for student behavior that will be in operation during the observed lesson?

10. Are there any special circumstances of which the observer should be aware?

* If more space is needed, please add additional pages.

Professional Observation Record

☐ Scheduled Observation ☐ Unscheduled Observation ☐ Artifact Data ☐ Non-Observed Data

The Professional Observation Record is used by the administrator/supervisor during classroom observation and shared at the post-observation conference. During classroom observation, the administrator/supervisor is to take notes regarding student and teacher behavior. It is not necessary to script the entire oral discourse of the teacher; however, the supervisor should record specific student behaviors and comments as well as specific teacher behaviors and comments. These notes can be taken separately and then transferred to the Professional Observation Record or recorded directly on the Professional Observation Record form.

Teacher _____ School _____

Grade/Subject_____

Administrator/Supervisor _____ Date _____ /_____ /_____

Standard 1: The teacher causes students to actively participate and be successful in the learning process.

1. The teacher causes students to acquire the knowledge and skills to gather, analyze, and apply information and ideas.

2. The teacher causes students to acquire the knowledge and skills to communicate effectively within and beyond the classroom.

3. The teacher causes students to acquire the knowledge and skills to recognize and solve problems.

4. The teacher causes students to acquire the knowledge and skills to make decisions and act as responsible members of society.

* If more space is needed, please add additional pages.

Standard 2: The teacher uses various forms of assessment to monitor and manage student learning.

5. The teacher uses various ongoing assessment to monitor the effectiveness of instruction.

6. The teacher provides continuous feedback to students and families.

7. The teacher assists students in the development of self-assessment skills.

8. The teacher aligns the assessments with the goals, objectives, and instructional strategies of the district curriculum guides.

9. The teacher uses assessment techniques that are appropriate to the varied characteristics and developmental needs of students.

* If more space is needed, please add additional pages.

Standard 3: The teacher is prepared and knowledgeable of the content and effectively maintains students' on-task behavior.

10. The teacher effectively demonstrates a readiness to teach.

11. The teacher chooses and implements appropriate methodology and varied instructional strategies which address the diversity of learners.

12. The teacher creates a positive learning environment.

13. The teacher effectively manages student behaviors.

Standard 4: The teacher communicates and interacts in a professional manner with the school community.

14. The teacher communicates appropriately with students, parents, community, and staff.

15. The teacher engages in appropriate interpersonal relationships with students, parents, community, and staff.

* If more space is needed, please add additional pages.

Standard 5: **The teacher keeps current on instructional knowledge and seeks and explores changes in teaching behavior that will improve student performance.**

16. The teacher engages in professional development activities consistent with the goals and objectives of the building, district, and state.

17. The teacher engages in professional growth.

Standard 6: **The teacher acts as a responsible professional in adressing the overall mission of the school district.**

18. The teacher adheres to all the policies, procedures and regulations of the building, and district.

19. The teacher assists in maintaining a safe and orderly environment.

20. The teacher collaborates in the development and/or implementation of the district's vision, mission, and goals.

Teacher's comments:

Administrator's/Supervisor's comments:

Date / /

Teacher's signature

Date / /

Administrator's/Supervisor's signature

Signature indicates the above has been reviewed and discussed. Copies to teacher and administrator/supervisor.

Supplemental Professional Observation Record

(Short Form)

The Supplemental Professional Observation Record is used when documenting only one or two criteria.

☐ Scheduled Observation ☐ Unscheduled Observation ☐ Artifact Data

☐ Non-Observed Data ☐ Drop-In Observation

Teacher_____ School/Grade/Subject_____

Administrator/Supervisor _____ Date _____/_____/_____

Criterion:

Data:

Criterion:

Data:

Teacher's comments:

Administrator's/Supervisor's comments:

_____ Date / /

Teacher's signature

_____ Date / /

Administrator's/Supervisor's signature

Signature indicates the above has been reviewed and discussed. Copies to teacher and administrator/supervisor.

Lesson Reflection Sheet

The Reflection Sheet could be completed by the teacher following each formal observation and taken to the post-observation conference. This form may be used by the administrator/ supervisor to discuss and document standards/criteria.

Teacher _____ School_____

Grade/Subject _____ Date_____/_____/_____

1. As I reflect on the lesson, to what extent were the students productively engaged in the work? How do I know?

2. Did the lesson allow for students to engage in activities and learning situations which were consistent with the district's curriculum guide?

3. What feedback did I receive from students indicating they achieved understanding and that the goal/ objective(s) were met for this lesson?

4. Did I adjust my goals or my work as I taught the lesson? Why? How?

5. If I had the opportunity to teach this lesson again to this same group of students, what would I do differently?

6. If there was one thing from this lesson that I could share with a colleague, what would it be?

* If more space is needed, please add additional pages.

Appendix B

Comprehensive Data Collection Form

Comprehensive Data Collection Form

The Comprehensive Data Collection Form is used by both the administrator/supervisor and teacher to summarize the documentation of each criterion over the course of the evaluation cycle. It should be maintained in the administrator's/supervisor's office and reviewed periodically to determine the teacher's progress. This document will provide an overview of the teacher's performance to be used during the Evaluation Report. It serves as a composite of all the data collected. All data should be copied and shared with the teacher prior to entering it into the file.

Teacher _____ Beginning Date _____/_____/_____

School _____ Ending Date _____/_____/_____

Grade Level/Subject_____ Administrator/Supervisor_____

Data Collection:

CO-Classroom Observation IC-Individual Conference P-Portfolio

RS-Reflection Sheet LR-Lesson Review AR-Artifact O-Other

Standard 1: The teacher causes students to actively participate and be successful in the learning process.

Criterion 1:The teacher causes students to acquire the knowledge and skills to gather, analyze and apply information and ideas.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's initials_____ Administrator's/Supervisor's initials_____

Criterion 2: The teacher causes students to acquire the knowledge and skills to communicate effectively within and beyond the classroom.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's initials_____ Administrator's/Supervisor's initials_____

* If more space is needed, please add additional pages.

Criterion 3: The teacher causes students to acquire the knowledge and skills to recognize and solve problems.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's Initials_____ Administrator's/Supervisor's Initials_____

Criterion 4: The teacher causes student to acquire the knowledge and skills to make decisions and act as responsible members of society.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's initials_____ Administrator's/Supervisor's initials_____

Standard 2: The teacher uses various forms of assessment to monitor and manage student learning.

Criterion 5: The teacher uses various ongoing assessments to monitor the effectiveness of instruction.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's Initials_____ Administrator's/Supervisor's Initials_____

Criterion 6: The teacher provides continuous feedback to students and family.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's initials_____ Administrator's/Supervisor's initials_____

* If more space is needed, please add additional pages.

Criterion 7: The teacher assists students in the development of self-assessment skills.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's initials_____ Administrator's/Supervisor's initials_____

Criterion 8: The teacher aligns the assessments with the goals, objectives, and instructional strategies of the district curriculum guides.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's initials_____ Administrator's/Supervisor's initials_____

Criterion 9: The teacher uses assessment techniques that are appropriate to the varied characteristics of students and developmental needs.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's Initials_____ Administrator's/Supervisor's Initials_____

Standard 3: The teacher is prepared and knowledgeable of the content and effectively maintains students' on-task behavior.

Criterion 10: The teacher effectively demonstrates appropriate preparation for instruction.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's initials_____ Administrator's/Supervisor's initials_____

* If more space is needed, please add additional pages.

Criterion 11: The teacher chooses and implements appropriate methodology and varied instructional strategies that address the diversity of learners.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's initials_____ Administrator's/Supervisor's initials_____

Criterion 12: The teacher creates a positive learning environment.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's initials_____ Administrator's/Supervisor's initials_____

Criterion 13: The teacher effectively manages student behaviors.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's Initials_____ Administrator's/Supervisor's Initials_____

Standard 4: The teacher communicates and interacts in a professional manner with the school community.

Criterion 14: The teacher communicates appropriately with students, parents, community, and staff.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's Initials_____ Administrator's/Supervisor's Initials_____

* If more space is needed, please add additional pages.

Criterion 15: The teacher engages in appropriate interpersonal relationships with students, parents, community, and staff.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's initials_____ Administrator's/Supervisor's initials_____

Standard 5: The teacher keeps current on instructional knowledge and seeks and explores changes in teaching behavior that will improve student performance.

Criterion 16: The teacher engages in professional development activities consistent with the goals and objectives of the building, district, and state.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's initials_____ Administrator's/Supervisor's initials_____

Criterion 17: The teacher engages in professional growth.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's initials_____ Administrator's/Supervisor's initials_____

* If more space is needed, please add additional pages.

Standard 6: The teacher acts as a responsible professional in addressing the overall mission of the school district.

Criterion 18: The teacher adheres to all the policies, procedures, and regulations of the building and district.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's initials_____ Administrator's/Supervisor's initials_____

Criterion 19: The teacher assists in maintaining a safe and orderly environment.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's initials_____ Administrator's/Supervisor's initials_____

Criterion 20: The teacher collaborates in the development and/or implementation of the district's vision, mission, and goals.

CO☐ IC☐ P☐ RS ☐ LR☐ AR☐ Other ☐ _____

Data/Comments: Date_____/_____/_____

Teacher's initials_____ Administrator's/Supervisor's initials_____

* If more space is needed, please add additional pages.

Appendix C

Self-Evaluation Form
Professional Development Plan
Professional Improvement Plan

Self-Evaluation Form

The Self-Evaluation Form is used by the teacher prior to developing a Professional Development Plan. This form should be shared with the administrator/supervisor when conferencing for the PDP.

Teacher _____ Date ___/___/___ Professional Development Plan Option _____

1. What has been the most positive aspect of your instructional practice over the last few years?

2. What area of instruction gives you the most difficulty?

3. Which one of the goals, as enumerated in the Show-Me Standards or district curriculum guide, do you feel your students were successful in reaching this past year? What evidence can you use to show this success?

4. Which goal would you target as an area for your students to improve?

5. If you had last year to do over, what would you change?

* If more space is needed, please add additional pages.

6. What are some of your activities or ideas that you would share with others?

7. What would you like to learn more about, whether it be from another teacher, a special training program, or other resources?

8. In working with parents/guardians, what skills do you possess that allow for positive and productive outcomes?

9. What are your strengths as a teacher?

10. What areas of your teaching would you like to improve?

* If more space is needed, please add additional pages.

Professional Development Plan

☐ Enrichment ☐ 1st/2nd-year teacher

NOTE: As a part of the Professional Development Plan, it is strongly suggested that teachers remain aware of PCI, PCII, and CPC license renewal processes so that requirements for renewal can become part of the Professional Development Plan.

Teacher _____ School _____

Grade/Subject _____

Administrator/Supervisor _____ Date _____ /_____ /_____

Criteria: (Note: Teachers in 1st and 2nd year will address all 20 criteria in a professional portfolio.)

Refer to attached list.

Related Building/CSIP Goal(s):

Objectives (applicable descriptors):

* If more space is needed, please add additional pages.

Strategies for achieving objective(s):
(Teacher and administrator/supervisor responsibilities)

Teacher will:

Administrator/supervisor will:

Assessment methods and timelines:

Teacher's comments:

Administrator's/Supervisor's comments:

Plan developed:

Date / /
Teacher's signature

Date / /
Administrator's/Supervisor's signature

Plan completed _____ Plan revised _____ Plan continued_____

Date plan reviewed

Date / /
Teacher's signature

Date / /
Administrator's/Supervisor's signature

Signatures indicate that the above has been reviewed and discussed. Copies to teacher and administrator/supervisor.

* If more space is needed, please add additional pages.

Standards/Criteria

Standard 1: The teacher causes students to actively participate and be successful in learning process.

1. The teacher causes students to acquire the knowledge and skills to gather, analyze, and apply information and ideas.
2. The teacher causes students to acquire the knowledge and skills to communicate effectively within and beyond the classroom.
3. The teacher causes students to acquire the knowledge and skills to recognize and solve problems.
4. The teacher causes students to acquire the knowledge and skills to make decisions and act as responsible members of society.

Standard 2: The teacher uses various forms of assessment to monitor and manage student learning.

5. The teacher uses various ongoing assessments to monitor the effectiveness of instruction.
6. The teacher provides continuous feedback to students and families.
7. The teacher assists students in the development of self-assessment skills.
8. The teacher aligns the assessments with the goals, objectives, and instructional strategies of the district curriculum guides.
9. The teacher uses assessment techniques that are appropriate to the varied characteristics and developmental needs of students.

Standard 3: The teacher is prepared and knowledgeable of the content and effectively maintains students' on-task behavior.

10. The teacher demonstrates appropriate preparation for instruction.
11. The teacher chooses and implements appropriate methodology and varied instructional strategies which address the diversity of learners.
12. The teacher creates a positive learning environment.
13. The teacher effectively manages student behaviors.

Standard 4: The teacher communicates and interacts in a professional manner with the school community.

14. The teacher communicates appropriately with students, parents, community, and staff.
15. The teacher engages in appropriate interpersonal relationships with students, parents, community, and staff.

Standard 5: The teacher keeps current on instructional knowledge and seeks and explores changes in teaching behaviors that will improve student performance.

16. The teacher successfully engages in professional development activities consistent with the goals and objectives of the building, district, and state.
17. The teacher engages in professional growth.

Standard 6: The teacher acts as a responsible professional in addressing the overall mission of the school district.

18. The teacher adheres to all the policies, procedures and regulations of the building and district.
19. The teacher assists in maintaining a safe, and orderly environment.
20. The teacher collaborates in the development and/or implementation of the district's vision, mission, and goals.

Professional Improvement Plan

The Professional Improvement Plan is used to assist teachers not meeting district expectations in one or more criteria. The administrator/supervisor can assign a Professional Improvement Plan at any time a deficiency is noted.

Teacher _____ Date_____/_____/_____ School _____ Teacher Status: Non-Tenured ☐ Tenured ☐

Criterion:

Performance Indicators:

Activities/ Steps to be Taken	Resources/ Persons Needed	Data to be Collected	Timelines/ Deadlines	Initial Appr.

_____ Date / /
Teacher's signature

_____ Date / /
Administrator's/Supervisor's signature

Plan completed _____ Plan revised _____ Plan continued_____

Date plan reviewed

_____ Date / /
Teacher's signature

_____ Date / /
Administrator's/Supervisor's signature

Signatures indicate that the above has been reviewed and discussed. Copies to teacher and administrator/supervisor.

Appendix D

Option 1: Evaluation Report
(3 point rating scale)

Option 2: Evaluation Report
(4 point rating scale with scoring guide)

Two Types of Evaluation Reports are included in this Appendix. Each form offers unique benefits and concerns. It is strongly recommended that each district review both versions carefully and determine which version offers the best fit for the district. Districts may also wish to modify, blend, or create new forms. Final review by legal counsel is suggested.

Option 1: Evaluation Report
(Three point rating scale)

The Evaluation Report is used to summarize the administrator's/supervisor's rating of performance for each criterion at the end of the teacher evaluation process. If the teacher is rated "Progressing Toward Meeting Expectations" or "Does Not Meet Expectations," a PIP and/or supportive documentation should be attached as appropriate.

Teacher _____ Administrator/Supervisor _____

Grade/Subject_____

School _____ Date _____/_____/_____

Classification: Tenured ☐ Non-Tenured ☐

The Teacher:

Criteria	Meets Expectations	Progressing Toward Meeting Expectations	Does Not Meet Expectations
1. The teacher causes students to acquire the knowledge and skills to gather, analyze, and apply information and ideas.	☐	☐	☐
2. The teacher causes students to acquire the knowledge and skills to communicate effectively within and beyond the classroom.	☐	☐	☐
3. The teacher causes students to acquire the knowledge and skills to recognize and solve problems.	☐	☐	☐
4. The teacher causes students to acquire the knowledge and skills to make decisions and act as responsible members of society.	☐	☐	☐
5. The teacher uses various ongoing assessments to monitor the effectiveness of instruction.	☐	☐	☐
6. The teacher provides continuous feedback to students and family.	☐	☐	☐
7. The teacher assists students in the development of self-assessment skills.	☐	☐	☐

		Meets Expectations	Progressing Toward Meeting Expectations	Does Not Meet Expectations
8.	The teacher aligns the assessments with the goals, objectives, and instructional strategies of the district curriculum guides.	☐	☐	☐
9.	The teacher uses assessment techniques that are appropriate to the varied characteristics and developmental needs of students.	☐	☐	☐
10.	The teacher demonstrates appropriate preparation for instruction.	☐	☐	☐
11.	The teacher chooses and implements appropriate methodology and varied instructional strategies that address the diversity of learners.	☐	☐	☐
12.	The teacher creates a positive learning environment.	☐	☐	☐
13.	The teacher effectively manages student behaviors.	☐	☐	☐
14.	The teacher communicates appropriately with students, parents, community, and staff.	☐	☐	☐
15.	The teacher engages in appropriate interpersonal relationships with students, parents, community, and staff.	☐	☐	☐
16.	The teacher successfully engages in professional development activities consistent with the goals of the building, district, and state.	☐	☐	☐
17.	The teacher engages in professional growth.	☐	☐	☐
18.	The teacher adheres to all the policies, procedures, and regulations of the building, and district.	☐	☐	☐
19.	The teacher assists in maintaining a safe and orderly environment.	☐	☐	☐
20.	The teacher collaborates in the development and/or implementation of the district's vision, mission, and goals.	☐	☐	☐

Administrator's/Supervisor's Summary (commendable items may be included):

Recommendation for employment:

Renewal of employment Yes ❑ No ❑

Teacher's comments:

*_____ _____ Date____/____/____

Signature of Teacher Signature of Administrator/Supervisor

* Note: My signature on this evaluation indicates that I have seen this document. It does not necessarily indicate that I agree with the evaluation. I understand that I have the right to respond in writing to the statements and/or evaluation within (district determines number) working days and that my comments will be attached to the evaluation form in my personnel file.

1 copy — Teacher 1 copy - Administrator/Supervisor 1 copy — Personnel File

Option 2: Evaluation Report (4 point rating scale with scoring guide)

Teacher _____ Administrator/Supervisor _____

Grade/Subject_____

School _____ Date _____/_____/_____

Criteria	Exceeds	Meets	Progressing	Does not Meet
1. The teacher causes students to acquire the knowledge and skills to gather, analyze, and apply information and ideas.	The teacher causes students to actively participate and engage in activities/learning that integrate the skills of gathering, analyzing, and applying information and ideas in authentic settings/context. The teacher acts as a facilitator in managing activities/learning to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate the development of learning experiences that integrate process skills in an authentic fashion.	The teacher causes students to actively participate and engage in activities/learning to gather, analyze, and apply information and ideas in an authentic setting/context. The teacher organizes and manages activities/learning to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate the development of learning experiences that are appropriate to the goal.	The teacher is inconsistent in causing students to engage in activities/learning to gather, analyze, and apply information and ideas in an authentic setting/context. The teacher organizes and manages activities/learning in a less than effective manner to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate an inconsistent development of learning experiences that are appropriate to the goal.	The teacher shows little or no evidence of causing students to actively participate and engage in activities/learning to gather, analyze and apply information and ideas in an authentic setting/context. The teacher shows little or no evidence of organizing and managing activities/learning to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate little or no development of learning activities that are appropriate to the goal.
2. The teacher causes students to acquire the knowledge and skills to communicate effectively within and beyond the classroom.	The teacher causes students to actively participate and engage in activities/learning that integrate the skills of communicating effectively within and beyond the classroom in authentic settings/context. The teacher acts as a facilitator in managing activities/learning to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate the development of learning experiences that integrate process skills in an authentic fashion.	The teacher causes students to actively participate and engage in activities/learning to communicate effectively within and beyond the classroom in an authentic setting/context. The teacher organizes and manages activities/learning to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate the development of learning experiences that are appropriate to the goal.	The teacher is inconsistent in causing students to engage in activities/learning to communicate effectively within and beyond the classroom in an authentic setting/context. The teacher organizes and manages activities/learning in a less than effective manner to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate an inconsistent development of learning experiences that are appropriate to the goal.	The teacher shows little or no evidence of causing students to actively participate and engage in activities/learning communicate effectively within and beyond the classroom in an authentic setting/context. The teacher shows little or no evidence of organizing and managing activities/learning to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate little or no development of learning activities that are appropriate to the goal.
3. The teacher causes students to acquire the knowledge and skills to recognize and solve problems.	The teacher causes students to actively participate and engage in activities/learning that integrate the skills of recognizing and solving problems in authentic settings/context. The teacher acts as a facilitator in managing activities/learning to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate the development of learning experiences that integrate process skills in an authentic fashion.	The teacher causes students to actively participate and engage in activities/learning to recognize and solve problems in an authentic setting/context. The teacher organizes and manages activities/learning to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate the development of learning experiences that are appropriate to the goal.	The teacher is inconsistent in causing students to engage in activities/learning to recognize and solve problems in an authentic setting/context. The teacher organizes and manages activities/learning in a less than effective manner to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate an inconsistent development of learning experiences that are appropriate to the goal.	The teacher shows little or no evidence of causing students to actively participate and engage in activities/learning to recognize and solve problems in an authentic setting/context. The teacher shows little or no evidence of organizing and managing activities/learning to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate little or no development of learning activities that are appropriate to the goal.
4. The teacher causes students to acquire the knowledge and skills to make decisions and act as responsible members of society.	The teacher causes students to actively participate and engage in activities/learning that integrate the skills of making decisions and acting as a responsible member of society in authentic settings/context. The teacher acts as a facilitator in managing activities/learning to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate the development of learning experiences that integrate process skills in an authentic fashion.	The teacher causes students to actively participate and engage in activities/learning to make decisions and act as a responsible member of society in an authentic setting/context. The teacher organizes and manages activities/learning to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate the development of learning experiences that are appropriate to the goal.	The teacher is inconsistent in causing students to engage in activities/learning to make decisions and act as a responsible member of society in an authentic setting/context. The teacher organizes and manages activities/learning in a less than effective manner to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate an inconsistent development of learning experiences that are appropriate to the goal.	The teacher shows little or no evidence of causing students to actively participate and engage in activities/learning to make decisions and act as a responsible member of society in an authentic setting/context. The teacher shows little or no evidence of organizing and managing activities/learning to ensure students participate and are successful in the learning process. Instructional artifacts demonstrate little or no development of learning activities that are appropriate to the goal.

Criteria	Exceeds	Meets	Progressing	Does not Meet
5.The teacher uses various ongoing assessment to monitor the effectiveness of instruction.	The teacher uses and maintains various or multiple ongoing informal and formal (traditional and performance-based) assessments that are authentic to the goals, objectives and content of the instruction. The teacher maintains and uses data to reflect and move beyond grading to modify instructional practices and materials to enhance the learning of all students.	The teacher uses and maintains various or multiple ongoing informal and formal (traditional and performance-based) assessments. The teacher maintains and uses data from his/her assessment activities to modify instruction.	The teacher has an awareness of informal and formal (traditional and performance-based) assessments. The teacher shows some evidence of data collection, primarily for assignment of a grade but not for modification of instruction.	The teacher shows little or no evidence of the use of informal and formal (traditional and performance-based) assessments. Data collection is minimal and insufficient for a grade or modification of instruction.
6. The teacher provides continuous feedback to students and family.	The teacher provides frequent information to student and family, as appropriate, about the instructional program. Students participate in preparing materials for their families. The teacher frequently communicates with student and family on both negative and positive aspects of student progress, using instructional and behavioral artifacts, and is proactive in responding to parent concerns. The teacher's efforts to engage families in the instructional program are frequent and successful. Students contribute ideas for projects that will be enhanced by family participation.	The teacher provides frequent information to student and family, as appropriate, about the instructional program. The teacher communicates with student and family about student progress, using instructional and behavioral artifacts, on a regular basis and is available as needed to respond to parent concerns. The teacher's efforts to engage families in the instructional program are frequent and ongoing.	The teacher participates in school's activities for student and family communication but offers little additional information. The teacher adheres to the school's required procedures for student and family communication. Responses to family concerns are minimal. The teacher's attempts to engage families in the instructional program are inconsistent.	The teacher provides little information about the instructional program to students and/or families. The teacher provides minimal response to parents' concerns about students. The teacher makes no attempt to engage families in the instructional program, or such attempts are inappropriate.
7. The teacher assists students in the development of self-assessment skills.	The teacher consistently incorporates opportunities and expectations for students to engage in self-reflection, self-assessment and metacognition as a means of evaluating and refining their own learning. Instructional artifacts (scoring guides, checklists, examples of student products, etc…) demonstrate clear/understandable and high expectations for all student performance or product. Instructional artifacts assist the student in setting and progressing toward goals.	The teacher consciously encourages and supports student self-assessment and metacognition as a means to enhancing the student's learning and achievement. Instructional artifacts (scoring guides, checklists, examples of student products, etc…) demonstrate clear/understandable and high expectations for student performance or product.	The teacher demonstrates inconsistent evidence for student self-assessment and reflection. Instructional artifacts are limited and inconsistent in demonstrating clear expectations for student performance or product.	The teacher shows little or no evidence for student self-assessment and reflection. Instructional artifacts show little or no evidence of defining expectations for student performance or product.
8. The teacher aligns the assessments with the goals, objectives, and instructional strategies of the district curriculum guides.	The teacher selects the assessments based on how efficient and effective the technique measures the district's curriculum guide proficiencies. The teacher customizes instruction based on analysis of individual student needs. Connection of instructional strategies to assessment is clearly evident and well planned.	The types of assessments used are aligned with the district's curriculum guide. The teacher selects instructional strategies and content based on group need. Connection of instructional strategies to assessment is evident and planned.	The types of assessments used may not be the best match with the district's curriculum guide. The teacher selects instructional strategies based on scope and sequence. Connection of instructional strategies to assessment is limited.	The types of assessments used often do not match with the district's curriculum guide. The teacher selects next content pieces based on textbook or informal sequence. Connection of instructional strategies to assessments is not evident.

Criteria	Exceeds	Meets	Progressing	Does not Meet
9. The teacher uses assessment techniques that are appropriate to the varied characteristics and developmental needs of the students.	The teacher collects a variety of student data prior to instruction. The teacher uses a variety of constructed response, performance tasks, or questioning strategies with frequent and specific feedback provided to students. The assessment plan provides a sufficient body of evidence about a student's growth that is valid, credible information from which generalizations about student growth can be made.	The teacher collects data on student learning prior to instruction. The teacher uses a variety of constructed response, performance tasks, or questioning strategies with appropriate feedback provided to the students. The assessment plan provides a sufficient body of evidence about students that is valid, credible information.	The teacher collects summative data and some informal data prior to instruction. The teacher uses limited types of assessments. The assessment plan provides a body of evidence that is not sufficient for all the decisions being made.	The teacher collects summative data or data that is too limited to make effective judgements. The teacher uses only post tests. The assessment plan provides a substantially limited body of evidence that is not sufficient for all the decisions being made.
10. The teacher demonstrates appropriate preparation for instruction.	The teacher understands not only the central concepts, tools of inquiry and structures of the discipline(s) within the context of a global society, but also demonstrates understanding of the most important elements/issues/strands of the discipline necessary for students to develop a deep understanding of the subject matter. The teacher chooses the most appropriate and robust examples, analogies, and experiences as opportunities for students to make meaning of the subject matter. Objectives of the lesson are clear and developed in an innovative, sequential, and logical fashion. The teacher utilizes district and community resources.	The teacher demonstrates a substantial command of relevant subject matter, its structures and tools of inquiry, and its applicable connections to other areas of the curriculum. Instructional artifacts demonstrate an understanding of common misunderstandings held by the learners. Lessons are designed with an understanding of the developmental level of the students and builds upon students' prior knowledge. Objectives of the lesson are clear and developed in a logical fashion. The teacher utilizes district resources.	The teacher demonstrates a basic knowledge of the discipline(s). The teacher's work, however, may demonstrate flaws or gaps in disciplinary understanding. Instructional and/or assessment artifacts tend to isolate and emphasize lower-level learning of the discipline; one cannot generalize from these that the teacher knows how to create coherent, personally meaningful learning opportunities for students. Lessons are designed that often set too high or low an expectation for the developmental level of the students. Objectives of the lesson are stated but limited in connection to instruction. The teacher demonstrates limited awareness of district resources.	The teacher demonstrates little or no evidence of a basic knowledge of the discipline(s). The teacher demonstrates flaws or gaps in disciplinary understanding. Instructional and/or assessment artifacts are limited and tend to isolate and emphasize lower-level learning of the discipline; one cannot generalize from these that the teacher knows how to create coherent, personally meaningful learning opportunities for students. Lessons are designed that set too high or low an expectation for the developmental level of the students. Objectives of the lesson are seldom stated and greatly limited in connection to instruction. The teacher is not aware of district resources.
11. The teacher chooses and implements appropriate methodology and varied instructional strategies that address the diversity of learners.	The teacher selects, uses, and evaluates a variety of instructional strategies, based on careful analysis of curriculum objectives, student needs and experiences. The teacher makes use of a rich mixture of basic and advanced content and skills to promote students' development in these areas. Reflections on instructional artifacts demonstrate the teacher's ability to match instructional strategies with content/or skills to be taught. Instructional groups are varied, as appropriate to the different instructional goals. There is evidence of student choice in selecting different patterns of instructional groups.	The teacher uses and subsequently evaluates the impact of a variety of instructional strategies, materials, and technologies to meet individual student needs. Although artifacts demonstrate the use of a variety of strategies, reflections may not clearly establish the teacher's ability to match specific strategies with the content and/or skills to be taught. Instructional groups are varied, as appropriate to different instructional goals.	The teacher uses a limited set of instructional strategies to create lessons mostly at the recall/recognition level. The teacher reveals only limited evidence of the ability to engage each student in active learning; rather, instructional artifacts emphasize a frequently teacher-centered, whole-class approach to instruction. Instructional groups are inconsistent in suitability to the instructional goals and offer minimal variety.	The teacher shows little or no evidence of using even a limited set of instructional strategies and strategies used are at the recall/recognition level. The teacher shows no evidence of the ability to engage students in active learning; rather, instructional artifacts indicate a teacher-centered, whole-class approach to instruction. Instructional groups are seldom used.
12. The teacher creates a positive learning environment.	The teacher shows evidence that standards of conduct are clear to all students and appear to have been developed with student participation. The teacher demonstrates genuine caring and respect for individual students. Students demonstrate genuine caring for one another as individuals and students. Students take obvious pride in their work and initiate improvement of work.	The teacher shows evidence that standards of conduct are clear to all students. Teacher-student interactions are friendly and demonstrate general warmth, caring, and respect. Student interactions are generally polite and respectful. Students accept teacher insistence on work of high quality and demonstrate pride in their work.	The teacher shows evidence that standards of conduct appear to have been established for most situations, and most students seem to understand them. Teacher-student interactions are generally appropriate but may reflect occasional inconsistencies. Students do not demonstrate negative behaviors toward one another. Students minimally accept the responsibility to do good work.	The teacher shows no evidence to indicate that standards of conduct appear to have been established, or students are confused as to what the standards are. The teacher's interactions with at least some students are negative, demeaning, or sarcastic. Conflict, sarcasm, or put-downs characterize student interactions. Students demonstrate little or no pride in their work.

Criteria	Exceeds	Meets	Progressing	Does not Meet
13. The teacher effectively manages student behaviors.	The teacher's monitoring of students is subtle and preventive. Students monitor their own and their peers' behavior, correcting one another respectfully. The teacher's response to misbehavior is highly effective and sensitive to students' individual needs, or student behavior is entirely appropriate. The teacher follows appropriate discipline code and serves as a "significant adult" role model for students.	The teacher is alert to student behavior at all times. The teacher's response to behavior is appropriate and respects the student's dignity, or student behavior is generally appropriate. The teacher takes appropriate actions as needed, consistent with district and building rules and policies.	The teacher is generally aware of student behavior but may miss the activities of some students. The teacher's attempts to respond to student misbehavior but with uneven results, or no serious disruptive behavior occurs. The teacher usually takes appropriate actions as needed, consistent with district and building rules and policies.	Student behavior is not monitored, and the teacher is unaware of what students are doing. The teacher does not respond to misbehavior, or the response is inconsistent, overly repressive, or does not respect the student's dignity. The teacher does not take or inconsistently takes required disciplinary action with students.
14. The teacher communicates appropriately with students, parents, community and staff.	The teacher is professionally appropriate and proactive when communicating with students, parents, community, and staff. The teacher frequently and successfully communicates with students, parents, community, and staff in order to support instructional school issues. The teacher models, supports, and expects students to use effective verbal, nonverbal, and media communication tools and techniques as integral tools of learning.	The teacher is professionally appropriate when communicating with students, parents, community, and staff. The teacher frequently communicates with students, parents, community, and staff in order to support instructional school issues The teacher models clear and articulate verbal, nonverbal, and media communication tools and techniques in all communication with the students, parents, community, and staff.	The teacher is occasionally professionally inappropriate when communicating with students, parents, community, and staff. The teacher adheres to the school's procedures for communicating with students, parents, community, and staff, and the teacher demonstrates effective verbal and written communication skills and presentation techniques. Use of media communication is limited.	The teacher is professionally inappropriate when communicating with students, parents, community, and staff. The teacher shows little evidence of communicating with students, parents, community, and staff in order to support instructional school issues. The teacher shows little evidence of effective verbal and written communication skills.
15. The teacher engages in appropriate interpersonal relationships with students, parents, community, and staff.	The teacher is professionally appropriate and proactive when interacting with students, parents, community, and staff. The teacher frequently and successfully interacts with students, parents, community, and staff in order to support instructional school issues and responds to concerns with great sensitivity and understands differences.	The teacher is professionally appropriate when interacting with students, parents, community, and staff. The teacher frequently interacts with students, parents, community, and staff in order to support instructional issues and is appropriatly available to respond to concerns.	The teacher is occasionally professionally inappropriate when interacting with students, parents, community, and staff. The teacher adheres to the school's procedures for interacting with students, parents, community, and staff but often is unavailable to respond to concerns.	The teacher is professionally inappropriate when interacting with students, parents, community, and staff. The teacher shows little evidence of interacting with students, parents, community, and staff in order to support instructional school issues.
16.The teacher engages in professional development activities consistent with the goals and objectives of the building, district, and state.	The teacher seeks out multiple opportunities for professional development and assists the district in providing professional development that enhance content knowledge and pedagogical skills. Professional development is focused and aligned to district and building goals and objectives.	The teacher seeks out opportunities for professional development to enhance content knowledge and pedagogical skills. Professional development is aligned to district and building goals and objectives.	The teacher participates in professional development activities to a limited extent when they are convenient. Professional development is often not congruent with district and building goals and objectives.	The teacher engages in no professional development activiteies to enhance knowledge or skill. The teacher does not attend professional development events offered by the district and provides no evidence of skill development outside of the school setting.

Criteria	Exceeds	Meets	Progressing	Does not Meet
17. The teacher engages in professional growth.	The teacher has a Professional Development Plan that defines and documents an inovative teaching behavior and makes strong connections between the new behavior and student achievement. The PDP is linked to building and district goals and specific criteria. The teahcer initiates important activities to contribute to the profession, such as frequently sharing new ideas and serving as a mentor to others interested in new teaching behaviors.	The teacher has a Professional Development Plan that defines and documents a new behavior of professional practice and the impact of such practice on student learning. The PDP is clearly linked to building and district goals and specific criteria. The teacher participates actively in sharing knowledge with others.	The teacher has a Profressional Development Plan that provides limited documentation of new behaviors of professional practice and the impact of such practice on student learning. The teacher finds limited ways to share knowledge with others.	The teacher does not have a Professional Development Plan that documents new behaviors of professional practice and the impact of such practice on student learning. The teacher makes no effort to share knowledge with others.
18. The teacher adheres to all the policies, procedures and regulations of the building and district.	The teacher serves as a resource to other teachers, either as individuals or in groups in imparting knowledge and direction of Board of Education policy, building and district procedures and regulations. The teacher is proactive in completing assigned duties. The teacher uses appropriate resources to solve professional conflicts. The teacher produces forms, reports, and plans that can be used as examples or models with other district employees.	The teacher demonstrates knowledge of Board of Education Policies, building and district procedures and regulations. The teacher is consistent in completing assigned duties in a prompt and accurate fashion. The teacher uses identified appropriate resources to solve professional conflict. The teacher completes forms, reports, and plans that meet district expectations.	The teacher accesses appropriate resources to gain direction of Board of Education policies, building and district procedures and regulations. The teacher is inconsistent in completing assigned duties in a prompt and accurate fashion. The teacher is aware of appropriate resources to access to solve professional conflicts. The teacher completes forms, reports, and plans that need minor modifications to meet district policy.	The teacher provides little evidence of awareness of Board of Education policies, building and district procedures and regulations. The teacher fails to complete assigned duties in a prompt and accurate manner. The teacher has little or no knowledge of the appropriate resources to access to solve professional conflicts. The teacher does not complete required forms, reports, and plans according to district policy.
19. The teacher assists in maintaining a safe and orderly environment within the school setting.	The teacher consistently provides supervision as directed by building administrators and voluntarily supervises students as needed to assist the safe operation of the building.	The teacher consistently provides supervision as directed by building administrator.	The teacher is inconsistent in providing supervision as directed by building administrator.	The teacher does not provide supervision as directed by building administrator.
20. The teacher collaborates in the development and/or implementation of the district's vision, mission, and goals.	The teacher's professional relationships with colleagues are supportive and cooperative. The teacher takes initiative in assuming leadership among the faculty. The teacher volunteers to participate in school events and building/district projects and committees and assumes a leadership role in at least some capacity.	The teacher's professional relationships with colleagues are supportive and cooperative. The teacher volunteers to participate in school events and building/district projects and committees, making a contribution.	The teacher maintains cordial professional relationships with colleagues to fulfill duties that the school or district requires. The teacher participates in school events and building/district projects and committees only when specifically asked.	The teacher's professional relationship with colleagues are negative or self-serving. The teacher avoids becoming involved in school events and building/district projects and committees.

Administrator's/Supervisor's Summary (commendable items may be included):

Recommendation for employment:

Renewal of Employment Yes ❑ No ❑

Teacher's comments:

* _____ _____ Date____/____/____

Signature of Teacher Signature of Administrator/Supervisor

* Note: My signature on this evaluation indicates that I have seen this document. It does not necessarily indicate that I agree with the evaluation. I understand that I have the right to respond in writing to the statements and/or evaluation within (district determines number) working days and that my comments will be attached to the evaluation form in my personnel file.

1 copy — Teacher 1 copy - Administrator/Supervisor 1 copy — Personnel File

AN EVALUATION OF THE MISSOURI TEACHING STANDARDS

prepared for

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Table of Contents

Introduction 1

Organization of report 1

How comprehensive, clear, and well delineated are the Missouri Standards and associated rubrics? .. 2

- Content Coverage 2
- Coherent Organization 3
  - Overlapping Standards 4
  - Duplication of Content 5
  - Misplaced Sub-standards 5
  - Sub-standards with More than One Focus 5
- Clarity of Language 6
- Discrimination among Performance Levels 7
- Summary 8

How Useful Are the Missouri Teaching Standards For Ensuring Teacher Effectiveness? 8

- Measuring student growth 8
- Developing evaluation systems 9
- Conducting annual evaluations 9
- Using evaluations to inform key decisions 9
- Summary 10

General Conclusions 10

Appendix: Annotated Missouri Teaching Standards 1

References 25

INTRODUCTION

The concept of teaching standards, or standards that determine what *teachers* should know and be able to do, is often traced to the publication of *A Nation Prepared: Teachers for the 21st Century* (Lake, 1986). Among other recommendations, the report called for the creation of a National Board for Professional Teaching Standards (NBPTS), which was established the following year and has developed teaching standards for 16 different subject areas (NBPTS, n.d.).

Since then, a number of states have put into place their own standards for what teachers should know and be able to do. In Missouri in 2009, the state legislature passed Senate Bill 291 in 2009, which requires all public schools in the state to develop teaching standards by no later than June 30, 2010.

In response, the state tasked the Missouri Advisory Council of Certification for Educators (MACCE), a statewide educator preparation advisory committee, with developing the Missouri Teaching Standards. These 10 standards and 52 sub-standards developed by the Council are intended to serve as a model for Missouri schools; they may either adopt the standards outright or adapt them for their own use. Each substandard includes a rubric for evaluating teacher performance, which describes the performances of the Newly Hired Teacher, the Developing Teacher, the Proficient Teacher, and the Distinguished Teacher.

In February 2010, Dr. Chris Nicastro, Commissioner of Education of the Missouri Department of Elementary and Secondary Education (DESE) requested that Mid-continent Research for Education and Learning (McREL) conduct a review of the draft Missouri Teaching Standards to determine whether their meaning is clear and the structure coherent. In addition, the Commissioner requested information on whether or not their content reflects the best in current thinking regarding standards for teachers. This study, conducted under McREL's Central Region Educational Laboratory (REL Central) contract, also examines the draft standards to determine whether or not they will prove useful in ensuring teacher effectiveness in the state, one of four primary reform efforts described in Missouri's Race to the Top proposal.

ORGANIZATION OF REPORT

This report is organized into two sections and an appendix. The first section summarizes the findings related to the clarity and organization of the teaching standards, and the extent to which they reflect the content of selected teachings standards documents. The second section examines how useful the standards may be in ensuring teacher effectiveness as described in Missouri's Race to the Top proposal.

The appendix provides recommended revisions to the Missouri Teaching Standards. The recommendations are supported by specific commentary on the organization of the standards, the clarity of the language, and whether or not the descriptions of teacher performance effectively

distinguish among performance levels. Significant differences in content coverage, as compared to the reference documents (described below) are noted in italics. The rationale for suggested revisions to the standards appears as underlined text and suggested deletions appear in strikethrough text.

HOW COMPREHENSIVE, CLEAR, AND WELL DELINEATED ARE THE MISSOURI STANDARDS AND ASSOCIATED RUBRICS?

Analysts reviewed the set of 10 Missouri Teaching Standards and 54 sub-standards to determine whether they are:

- comprehensive in content coverage,
- well organized,
- clear, and
- the extent to which the associated rubrics effectively discriminate among the four teacher performance levels measured.

Each of these areas is addressed below, including the methodology used to reach their findings.

CONTENT COVERAGE

In order to determine whether the Missouri Teaching Standards reflect the best of current thinking about teaching standards, REL Central analysts compared the content against three well-known and well-regarded standards documents. Because no national organization has undertaken a comparative review of teaching standards, it was necessary to base the selection of documents upon the knowledge of teaching standards among REL Central staff and Missouri Department of Education officials. REL Central and the Department agreed that three documents should be used for comparison purposes:

- National Board of Teaching Standards (*What Teachers Should Know and Be Able to Do*),
- North Carolina Department of Education (*North Carolina Professional Teaching Standards*), and
- Ohio Department of Education (*Ohio Standards for the Teaching Profession*).

This decision to use these documents as benchmarks was based upon the coherence, clarity, and favorable reputation of these documents.

The Missouri standards were reviewed against the selected standards documents. Each of three analysts made one comparison, evaluating whether the content in the document was also addressed in the Missouri standards. Analysts provided excerpted text, page citations, and commentary to support their conclusions regarding the presence or absence of content. All evaluations were

reviewed by a second analyst. A third analyst was available to review the standards in the event that the two analysts could not agree on a rating. All decisions were unanimous.

Collectively, the 10 Missouri teaching standards and 52 sub-standards addressed nearly all significant content identified in the reference documents. REL Central recommends only one change: that the Department emphasize cooperative learning and learning in groups in standard 7.6.

Missouri's teaching standards, however, do include a number of concepts not included in the comparison documents. These concepts (followed by a reference code to the standard and sub-standard in which they appear) are displayed in Table 1.

Table 1. Missouri teaching standards content not in reference documents.

Sub-standard code	Substandard Content
1.6	Using technology to support students' understanding and valuing of diversity
2.1	Understanding current theory on brain function
5.2 & 5.3	Knowledge of computer hardware (5.2) and how to manage computer files (5.3)
7.4	Facilitating student freedom of expression
8.3	Knowledge and use of common assessments
8.8	Ability to read and interpret standardized test results
8.9	Using technology for the purpose of assessment
9.5	Using technology for productivity and professional growth

Given that this content does not align with the content in the highly regarded teaching standards documents, the Department might want to reexamine the need to include them in their teaching standards.

Coherent Organization

REL Central reviewed Missouri's teacher standards document to determine how well it is structured. That is, the review examined the extent to which the content is organized in a user-friendly manner that makes the meaning of each standard clear. A user-friendly document keeps content manageable by organizing related concepts together under the same standard, avoiding cases in which the ideas of one standard are shared by another, leaving the reader unsure where content might be found. Content that is duplicated enlarges the document unnecessarily. Misplaced content often causes users to search in vain for the content of interest to them. Each sub-standard must focus on specific and closely related knowledge, skill, or behavior, so that the teachers and readers perceive it as a coherent idea, it is clear how a rubric can be used to distinguish various levels of performance. Finally, if the language of the rubrics is unclear, the standards will not communicate how teachers are expected to perform. Analysts reviewed content to identify overlapping and duplicate content, misplaced sub-standards and those with more than one focus, and clarity of language in the rubrics.

This analysis determined that multiple standards and sub-standards contain similar or identical content. Whenever possible, the Missouri standards should describe the content in a manner that

minimizes duplication, which will both help reduce document complexity and size and clarify the focus of each standard and sub-standard.

Overlapping Standards

Although the majority of the standards clearly describe the knowledge and skills that teachers should attain, Standards 2 & 3 describe and organize very similar content (see Figure 1).

2) **Understanding and encouraging student growth and development:** The teacher understands how students learn and develop. The teacher provides learning opportunities that support the intellectual, social and personal development of all students.

3) **Encouraging *individual* student growth and development:** The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted for diverse learners.

Figure 1. Example of similar content in Standards 2 & 3

Initially, the distinction between these two standards seems to be the focus on the growth and development of all students as opposed to individual students. However, upon further analysis it becomes clear that the theories of learning, research, and strategies associated with Standard 2, the growth of all students, are often applied as methods to differentiate instruction for individual students, since all students do not grow and develop at the same rate. The distinction between these standards is further blurred when sub-standards under Standard 2 explicitly describe their application to individual students, which is the defining feature of Standard 3 (see Figure 2).

2) **Understanding and encouraging student growth and development;**

2P1) The proficient teacher uses models of child/adolescent growth and development to guide his/her understanding of how young people mature and ranges of individual variation within each domain.

2S1) The distinguished teacher assesses individual and group performance in order to design instruction that meets learners' current needs in each domain (cognitive, social, emotional, moral and physical) that leads to the next level of development.

2P4) The proficient teacher applies theories of learning by modifying instruction to meet student needs.

Figure 2. Example of overlap; content appropriate to either standard 2 or standard 3

These two standards on the growth and development of students should be combined into a single standard in order to eliminate the considerable overlap between them. Combining these standards

would result in a single standard that organizes six sub-standards, which is more comparable with other standards within the *Missouri Teaching Standards*.

Duplicated Content in Sub-standards

In addition to overlapping content in the standards, REL Central analysts found duplicated content within the substandards (see Figure 3).

> 1N3) The newly hired teacher uses state/local curriculum guidelines to make informed decisions about instructional objectives and plans
>
> 4N1) The newly hired teacher selects and creates learning experiences that are appropriate for curriculum goals, relevant to learners, and based upon principles of effective instruction (e.g., encourages exploration and problem solving, building new skills).

Figure 3. Example of duplicated content within sub-standards

Both of these statements describe teachers' use of curriculum goals or guidelines to inform instruction, although Statement 4N1 is broader in scope and includes additional content not found in 1N3. When content is duplicated in more than one sub-standard, it should be deleted from all but one sub-standard unless there is an informative and defined difference in the way it is characterized in each statement. In the above example, 1N3 should be re-written to strengthen its connection to the other statements in the same substandard and the overarching idea of standard 1 (subject area knowledge). Eliminating duplicate content will help clarify each standard's focus (see Appendix).

Misplaced Sub-standards

In a few cases, the content organized under a standard appears to be misplaced, and should be moved to the standard to which it is the most conceptually aligned (see Figure 4).

> The following statement is organized beneath Standard 4: Implementing the curriculum:
>
> 4S1) The distinguished teacher causes students to actively engage in authentic learning, integrating the skills of inquiry, questioning, critical thinking, and problem-solving into curriculum-based instructional activities. The distinguished teacher ensures student participation and success in learning.

Figure 4. Example of a misplaced sub-standard

Although this statement is related to curriculum, it is more aligned with Standard 5: Teaching for critical thinking, which includes instructional strategies that encourage student problem-solving and performance skills.

Sub-standards with More than One Focus

When a substandard, the most specific level of content description in the standards, is comprised of more than a single topic, a teacher may perform well in one topic, but poorly on the other. Such a circumstance makes it difficult, if not impossible, to award a single, meaningful score. Thus, each

sub-standard in the Missouri Teaching Standards should focus on a distinct teacher knowledge or skill. Figure 5 provides an example of a sub-standard that include a number of distinct ideas, including addressing student misunderstandings, engagement of students, and curriculum alignment (see Figure 5).

> 1S3) The distinguished teacher identifies, anticipates, and addresses content or skill gaps, misconceptions and/or generational differences (between teacher and student) to prevent misunderstanding.
>
> The distinguished teacher's plans are based on extensive content knowledge and understanding of students and are designed to engage students in significant learning. All aspects of the teacher's plans – instructional outcomes, learning activities, materials, resources and assessments – are in complete alignment and are adapted as needed to produce growth in individual students.

Figure 5. Example of a sub-standard with more than one focus

Because of its varied content, the focus of this sub-standard is unclear. Additionally, assessing this sub-standard could be difficult if, for example, a teacher adequately addresses gaps in student skills but doesn't correctly align all of the curriculum components. To address this issue, sub-standards that include multiple key ideas should be divided into more than one sub-standard. In some cases, newly hired or developing teachers may not exhibit the knowledge or skill for a given topic; in this instance, the cells for those levels within the sub-standard should explicitly state that teachers at those levels are not expected to demonstrate proficiency on that sub-standard.

Clarity of Language

Analysts reviewed the language in the standards and sub-standards to determine whether or not it effectively communicates what teachers should know and also be able to do. Standards are established to communicate expected performance, but also to provide language precise enough to clearly distinguish among the levels of performance that may be captured in a rubric. To articulate such distinctions among levels requires what measurement experts call a transitivity relation; transitivity requires that if a score of A is higher than B, A also must be higher than a score of C (Cimilli, Cizek, & Lugg, 2001, p. 451). If language is not clear and concepts not distinct, the performance levels communicated by the rubrics cannot be effectively used to evaluate teacher performance.

Each sub-standard was rated on a scale of 1–3 to indicate the level of revision necessary to bring the standards to a satisfactory level of clarity. Sub-standards rated a 1 contain vague language; these sub-standards require major revisions to clarify the meaning of each indicator. In sub-standards rated a 1, it is not clear what is expected of the teachers at each level, and it would be difficult to determine whether or not a teacher was meeting the criteria. Sub-standards rated a 2 need some revision. These sub-standards employ terms that are not well defined or lack sufficient supporting detail, and this lack of clarity is likely to result in disagreement on how to assess teacher performance. Sub-standards

that are rated a 3 do not need to be revised to improve clarity. Users are likely to interpret the descriptions in the rubric in the same way and give the same rating to the same performance. Sub-standards with a 3 rating use terms that are specific and accurate, providing concrete descriptions that make it clear what is expected of teachers at each level.

Approximately 16% of Missouri's teaching sub-standards were rated a 3 and do not need to be revised for clarity. Twenty-five percent were rated a 1, with a major revision strongly recommended. The majority, or 59%, of sub-standards in the Missouri Teaching Standards were rated a 2. These sub-standards need some revision to clarify the expectations for teachers at each level. In many cases the sub-standards would become clearer if greater detail about the teacher's actions and observable performance were described for each level.

Discrimination among Performance Levels

The sub-standards were also evaluated to determine how successfully they distinguish among the various levels of performance. Each substandard includes a rubric that describes the performances of the Newly Hired Teacher, the Developing Teacher, the Proficient Teacher, and the Distinguished Teacher. For this analysis, REL Central examined whether or not the levels are sufficiently distinct to allow teachers to be fairly evaluated as performing work at one level as opposed to another. The rubrics do not explicitly state that teachers at each level have mastered the knowledge and skills identified in the preceding level. Although this might be presumed by some readers, the document would be clearer if this relationship among levels were made explicit.

Each sub-standard was rated on a scale of 1–3 to indicate the level of revision necessary in order to establish clear discrimination among performance levels. Sub-standards rated a 1 provide little to no distinction among levels. This rating was sometimes assigned because of language that used problematic comparative terms, such as *very*, *some*, *little*. Because vague language contributes to a lack of discrimination among levels, sub-standards rated low in clarity were often also rated low for discrimination. In addition, if concepts did not follow logically from one level to another—for example, ideas were used to distinguish one level from another—the rubric was rated a 1. For example, in 7.4, the newly hired teacher is expected to support and "expand learners," while the developing teacher only facilitates activities. On the other hand, the proficient/distinguished teacher is expected to develop students, but this seems to be implied in the description for the newly hired teacher. Substandards rated a 2 require some revision to be useful. These sub-standards often provided adequate detail for evaluation, but not at all four levels, or the flow of accomplishment from the Newly Hired Teacher to the Distinguished Teacher did not appear to be clear and logical. In some instances, the only difference between one rating and the next higher rating is that a teacher discusses the issue with a colleague. Sub-standards that were awarded a 3 do not require revision; they provide sufficient concrete information necessary to evaluate teachers to identify their level of performance.

Approximately 16% of the sub-standards were rated a 3 and need no revision for ability to discriminate levels of performance. Thirty-nine percent were rated a 1, with significant revision strongly recommended. A significant portion, 45%, of the sub-standards in the Missouri Teaching

Standards were rated 2. These sub-standards require the addition of concrete and specific language in order to clarify the distinctions among levels.

SUMMARY

Analysts' review of the standards shows that in large part they are comprehensive in their coverage of content, yet also include content that is not included in the selected comparison documents. The organization of the standards document suffers because two standards address closely related content. In addition, very similar content can be found duplicated across standards and substandards. In others, the content of a substandard suggests that it is more appropriately placed under a different standard. In a number of instances, sub-standards do not focus on a single topic, resulting in cases in which a teacher might be considered both highly competent and needing improvement on the same measure. Finally, the rubrics, which should make clear the distinctions among levels of performance, frequently fail to provide the clear and specific information necessary for an effective evaluation of teacher performance.

HOW USEFUL ARE THE MISSOURI TEACHING STANDARDS FOR ENSURING TEACHER EFFECTIVENESS?

In addition to a review for clarity and coherence, the Department also asked for assistance in determining how useful the state standards are in addressing the requirements of Race to the Top (RTTT). In section (D)(2)(i-iv) of the RTTT application, states are asked to demonstrate how they will provide high quality teachers and leaders for all of their schools by improving teacher and principal effectiveness based on performance. States are required to address four areas in their responses to this section: measuring student growth, developing evaluation systems, conducting annual evaluations, and using evaluations to inform key decisions. The following discussion addresses the Missouri Teacher Standards in this context and provides guidance about actions that may be helpful in positioning the state for success in its RTTT application.

MEASURING STUDENT GROWTH

The Missouri Teaching Standards document does not explicitly require the use of student achievement measures, nor does it prescribe how those measures should be used as a measure of teacher effectiveness. Likewise, the standards should clearly articulate the need for teachers to use both high stakes and formative assessment data for the purpose of ongoing improvement of classroom instructional practices. States that were rated highly by Race to the Top reviewers included items related the use of such data to drive instructional decisions in their plans for teacher evaluation. RTTT reviewers commented on the lack of mention of growth scores or student achievement levels in a number of proposals, and in some cases deducted points because the state in question did not satisfactorily address the use of student assessment information as a measure of teacher effectiveness.

DEVELOPING EVALUATION SYSTEMS

In their current form, the Missouri Teaching Standards do not constitute an evaluation instrument. They are, however, formatted in such a way that they may easily form the foundation of a rubric-based evaluation system, similar to the model developed by Charlotte Danielson in *Professional Practice: A Framework for Teaching.* Danielson's work is generally recognized as a good model for clearly describing the components of professional practice that all teachers should demonstrate. Whether used for accountability, or for delivering professional development this model provides a specific means of measuring and evaluating teacher performance. Since Missouri's teacher standards are already in the format advocated by Danielson, translating the standards to a rubric to be used for evaluation purposes would seem to be the logical next step in the development of a teacher evaluation system. To accomplish this, Missouri will need to develop a scoring system that describes how to acquire ratings on individual standards and sub-standards to determine proficiency, and how the ratings of standards are combined with student achievement or student growth scores determine an overall level of teacher effectiveness. In order to meet RTTT requirements, states must annually report the number and percentage of effective and highly effective teachers in the state. The Missouri State Department of Education would not be able to do that using this teaching standards document without being more specific about plans for measuring teacher performance against approved standards and expectations for teachers to facilitate the academic achievement of every student.

In addition, Missouri needs to clearly articulate the meaning of each teacher performance level and what an overall rating at each level means in terms of continued employment, performance improvement, teacher tenure, and compensation adjustments.

CONDUCTING ANNUAL EVALUATIONS

Missouri needs to fully develop an evaluation process that clearly articulates the following:

- *Who will be evaluated and when.* Many states are moving to an annual evaluation of all teachers.
- *Specific responsibilities, by role, within the evaluation process.* Missouri should clearly delineate the role*s and responsibilities of all staff who have a role in* teacher evaluation, including teachers, assistant principals, principals, human resources directors, area superintendents, superintendents, and other central office staff members.
- *A detailed timeline* showing the annual schedule for all evaluation activities for all groups of teachers.
- *How the results will be used*, and, equally important, how they will *not* be used.

USING EVALUATIONS TO INFORM KEY DECISIONS

To support the evaluation process, Missouri may need to develop or modify policies to assure that the implementation of the new evaluation system will proceed as planned. For example, if the schedule for conducting evaluation changes, the state may need to revise the policy that prescribes the required schedule of teacher evaluations in order to bring it into alignment with the new

process. Also, some policies may need to be adjusted to reflect decisions about how the results of the evaluation will be used in the future. For example, will teachers be eligible for tenure if they do not achieve proficiency on all standards? What happens if their students are not learning at the rate of one year of growth for one year of work?

A number of other questions should be addressed in Missouri's plan for teacher evaluation. Among them are:

- Are the Missouri Teaching Standards research-based, and if so, on whose research are they based?
- How are the Missouri Teaching Standards aligned with those for other staff members, especially principals?
- Are effective teachers distributed equitably across all school systems and schools?
- What professional development needs are identified by teacher evaluation results?
- Is the evaluation process implemented as planned in all schools and districts?

SUMMARY

The Missouri Teaching Standards themselves are similar to those of other states and to those advocated by the National Board for Professional Teaching Standards. However, the sub-standards, as articulated, are not as rigorous as those of other states and the National Board for Professional teaching Standards. In some instances, the only difference between one rating and the next higher rating is that a teacher discusses the issue with a colleague. REL Central recommends that the standards be examined for their level of rigor and that every effort be made to increase the rigor in the standards and sub-standards in the revised documents.

In conclusion, Missouri has a very good start toward the development of a set of rigorous standards for teachers. While there is still work to be done, the model used for developing the standards lends itself to translation into a teacher evaluation instrument that can measure not only good classroom practice but also other facets of teachers' responsibilities and how well those practices lead to improvements in student learning.

GENERAL CONCLUSIONS

The Missouri Teaching Standards were reviewed for their coverage of important content, the organization and usefulness of the document, and their clarity. While adequate in content coverage, there are problems in the organization of the document, especially relating to the placement and duplication of content. The majority of the rubrics, which should elucidate levels of teacher performance, do not provide a useful focus for evaluation. Finally, the standards, in their current form, do not appear to be as rigorous as would be required to satisfy Race to the Top requirements.

APPENDIX A: ANNOTATED MISSOURI TEACHING STANDARDS

Introduction

In 2009, the Missouri Legislature adopted a law (Section 161.380, as part of Senate Bill 291) requiring all public schools in Missouri, including charter schools, to develop "standards for teaching no later than June 30, 2010." This document is intended to provide a model that Missouri schools may adopt or adapt in compliance with the new law.

The Missouri Teaching Standards were developed during 2008 and 2009 by the Missouri Advisory Council of Certification for Educators (MACCE), a statewide committee that advises the State Board of Education on issues and policies related to educator preparation and certification. The 25-member Council includes members of all the state's leading professional education associations. The Department of Elementary and Secondary Education express appreciation to the members of MACCE for their work.

The standards are based on the belief that effective teachers are caring, reflective practitioners and lifelong learners who constantly seek to improve their teaching in order to promote student learning. These standards recognize that teachers continuously develop their knowledge and skills. Therefore, the standards are displayed as a continuum, illustrating how a successful teacher's knowledge and skills mature and strengthen throughout the career.

Summary of the Missouri Teaching Standards

1) **Aligning content knowledge and perspectives with appropriate instruction;**
   The teacher understands the central concepts, structures and tools of inquiry of the discipline(s) and creates learning experiences that make these aspects of subject matter meaningful for students.
2) **Understanding and encouraging student growth and development;** [*Recommend combining standard 2 & 3*]
   The teacher understands how students learn and develop. The teacher provides learning opportunities that support the intellectual, social and personal development of all students.
3) **Encouraging *individual* student growth and development;**
   The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted for diverse learners.
4) **Implementing the curriculum;**
   The teacher recognizes the importance of long-range planning and curriculum development. The teacher develops implements and evaluates curriculum based upon student, district and state standards.
5) **Teaching for critical thinking;**

The teacher uses a variety of instructional strategies to encourage students' development of critical thinking, problem-solving and performance skills, including technological applications.

6) **Creating a positive classroom environment for learning;**
The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages active engagement in learning, positive social interaction and self-motivation.

7) **Using effective communication;**
The teacher models effective verbal, nonverbal and media communication techniques with students and parents to foster active inquiry, collaboration and supportive interaction in the classroom.

8) **Using data to analyze and modify instruction/assessment;**
The teacher uses formal and informal strategies to assess the learner's progress. The teacher uses assessment data to plan ongoing instruction. The teacher monitors the performance of each student and devises instruction to enable students to grow and develop intellectually, socially and physically.

9) **Applying reflective practice;**
The teacher is a reflective practitioner who continually assesses the effects of choices and actions on others. The teacher actively seeks out opportunities to grow professionally in order to improve learning for all students.

10) **Collaborating professionally.**
The teacher has effective working relationships with students, parents, colleagues and community members.

Note about coding of standards:

First # = Number of the standard.
Second letter = The teacher's current status (N=newly hired; D=developing; P=proficient; S=Distinguished).
Third # = The sequential number of sub-standards in that category.

The following descriptions apply, in general, to each of the teacher categories found in these standards

New Hire: Performance expected of a new teacher as he enters the profession or a new assignment. Base knowledge and skills are held before teaching in a classroom of his own.	**Developing Teacher:** Performance expected of a teacher early in the career as the teaching, content and skills that he possesses continue to develop as he encounters new experiences and expectations in the classroom/school/district/ community. The developing teacher advances student growth and achievement.	**Proficient Teacher:** Performance expected of a career, professional teacher who continues to advance his knowledge and skills while consistently advancing student achievement.	**Distinguished Teacher:** Performance exceeds proficiency and contributes to the profession/community while consistently advancing student achievement. The Distinguished teacher is a leader in the school and/or the profession.

1) Aligning content knowledge and perspectives with appropriate instruction;

The teacher understands the central concepts, structures and tools of inquiry of the discipline(s) and creates learning experiences that make these aspects of subject matter meaningful for students.

New Hire	Developing Teacher	Proficient Teacher	Distinguished Teacher
1N1) The newly hired teacher knows the discipline applicable to the certification area(s) as defined by the Subject Competencies for Beginning Teachers in Missouri and demonstrates that knowledge through College content course work performance, accuracy of instruction during school fieldwork and standardized test performance.	1D1) The developing teacher knows the discipline applicable to: district curriculum guidelines, Missouri curriculum frameworks, grade level expectations, course level expectations, and demonstrates this knowledge by implementing accurate instruction pertinent to the contracted teaching role. The developing teacher is able to research content needed to teach effectively and accurately.	1P1) The proficient teacher expands his knowledge applicable to district and Missouri curriculum guidelines and frameworks, grade level/course level expectations. He/she demonstrates this knowledge by implementing accurate instruction pertinent to the contracted teaching role and by infusing new information into instructional units and lessons. The proficient teacher displays solid knowledge of the important concepts of the discipline and how these relate to one another and is practiced in identifying new sources of information/ evidence/real world applications for teaching specific content.	1S1) The distinguished teacher has mastery of the subject(s) he teaches including a deep understanding of the history, structure and real-world applications of the subject. He infuses that knowledge into his instruction continuously. The distinguished teacher displays extensive knowledge of the important concepts in the discipline and how these relate to one another and to other disciplines. The distinguished teacher uses this knowledge and continuing acquisition of knowledge to contribute to the field's professional learned society or the school/district through research or curriculum development.

1N2) The newly hired teacher understands subject specific methodologies and presents the subject matter in multiple ways in fieldwork classrooms.	1D2) The developing teacher presents the subject matter in multiple, but possibly limited, ways in order to engage student interest/activity with the curriculum.	1P2) The proficient teacher presents the subject matter in multiple, effective ways which are purposefully selected to engage every student in learning.	1S2) The distinguished teacher uses a variety of flexible, diverse instructional strategies specific to the discipline to teach every student to understanding.
1N3) The newly hired teacher's decisions about instructional objectives and plans reflect basic understanding of subject area content. *[Duplication: Alignment of objectives to curriculum guidelines, 4N1. Recommend adding content about how the objectives and plans reflect basic understanding of subject area content.]*	1D3) The developing teacher's plans reflect moderate understanding of the content and the students' prior knowledge and needs. *[Duplication: Available Resources, 1.8; Alignment of objectives to assessments, 8D1; Relevancy of outcomes to student group, 4D1]*	1P3) The proficient teacher anticipates content or skill gaps as well as possible misconceptions that students bring to study of content and plans instruction accordingly. The proficient teacher's plans reflect solid understanding of the content and students' prior knowledge and needs. Instructional outcomes represent important learning suitable to all students and are assessed systematically through a number of modalities (questioning, formal/informal assessment) to demonstrate student acquisition of the knowledge/skills specified in instructional objectives. [*Duplication: Available Resources, 1.8*]	1S3) The distinguished teacher identifies, anticipates and addresses content or skill gaps, misconceptions and/or generational differences (between teacher and student) to prevent misunderstanding. The distinguished teacher proactively corrects false assumptions or popularly held beliefs. *[Revised to include related content from 3S2]* The distinguished teacher's plans are based on extensive content knowledge and understanding of students and are designed to engage students in significant learning. *[Recommend moving content related to alignment to 4.S.1 to clarify focus of this sub-standard]*
1N4) The newly hired teacher demonstrates understanding of and the ability to use/model the	1D4) The developing teacher demonstrates the ability to engage students in the methods of inquiry/research methodologies	1P4) The proficient teacher teaches his/her students the methods of inquiry used in the discipline and requires	1S4) The distinguished teacher consistently employs student-inquiry instructional approaches wherein he/she

research methodologies pertinent to the discipline being taught.	used in the discipline but may do so at a basic level.	students to acquire information/ knowledge on their own (as is developmentally appropriate to content/grade level) by using those inquiry methods.	teaches and requires the students to pose and answer questions for themselves through research in the field – in age appropriate ways.
1N5) The newly hired teacher is able to create interdisciplinary learning (through creation of lessons/ units).	1D5) The developing teacher creates some interdisciplinary learning (as is consistent with school practices).	1P5) The proficient teacher understands district curricula across subject areas and actively seeks to make interdisciplinary content connections in his/her instruction.	1S5) The distinguished teacher is conversant with the curricula of the district, state, and appropriate professional learned societies and collaborates with colleagues to make interdisciplinary connections across subject fields/classes.
1N6) The newly hired teacher demonstrates understanding of global perspectives pertinent to the discipline being taught. *[Recommend moving substandard 1.6 to Standard 5. Focus is more on the ability to think critically about information than on subject-specific knowledge]*	1D6) The developing teacher incorporates global perspectives about, national/regional/ethnic contributions to, and cultural differences/ interpretations of the discipline being taught into instruction.	1P6) The proficient teacher teaches his/her students to gather information from multiple cultural perspectives and to evaluate information objectively, to separate belief or opinion from fact/evidence and provides opportunities for them to practice doing so. *[Content related to fact vs. opinion and evaluating information has weak support, likely because it verges on curriculum; recommend considering deletion]*	1S6) The distinguished teacher teaches his/her students to gather information from multiple cultural perspectives and to evaluate information objectively, to separate belief or opinion from fact/evidence, and to use evidence to formulate informed arguments that utilize ideas and information from multiple cultures and/or global perspectives. *[Content related to fact vs. opinion and evaluating information has weak support, likely because it verges on curriculum; recommend considering deletion]*

1N7) The newly hired teacher has knowledge of the social, ethical, legal and human issues surrounding the use of technology in PK-12 schools. *[Recommend moving sub-standard 1.7 content related to technology to Standard 5, which focuses on using technology and information. Content related to the legal and ethical use of information has weak support]*	1D7) The developing teacher identifies legal and ethical issues related to use of information and communication technology. *[Content related to the legal and ethical use of information has weak support]* The developing teacher identifies technology resources and activities that help children develop accepting attitudes toward students of different backgrounds, races, religions, or national origins. *[Although understanding diversity is heavily supported in comparison documents, using technology for that purpose has weak support; recommend considering deletion. If retained, recommend moving content to a separate, new sub-standard to clarify the content focus of this substandard.]* The developing teacher identifies health and safety issues relating to use of information and communication technology.	1P7) The proficient teacher describes and applies content of acceptable use policy designed to address issues related to legal and ethical use of information and communication technology for the school and classroom. *[Content related to the legal and ethical use of information has weak support]* The proficient teacher applies available technology-enhanced global resources to help students recognize positive characteristics and likenesses among people across the globe. *[Content related to grouping strategies added as new sub-standard, 7P6. Although understanding diversity is heavily supported in comparison documents, using technology for that purpose has weak support; recommend considering deletion. If retained, recommend moving content to a separate, new sub-standard to clarify the content focus of this sub-standard.]* The proficient teacher models	1S7) The distinguished teacher discusses issues related to legal and ethical use of information and communication technology, and implements strategies for acceptable use policies in the classroom and school. *[Content related to the legal and ethical use of information has weak support]* The distinguished teacher facilitates students' use of available technology that addresses their social needs and cultural identity and promotes their interaction in the global community. *[Although understanding diversity is heavily supported in comparison documents, using technology for that purpose has weak support; recommend considering deletion. If retained, recommend moving content to a separate, new sub-standard to clarify the content focus of this sub-standard.]* The distinguished teacher identifies and advocates for technology resources to benefit

		responsible classroom procedures to avoid health or safety risks relating to the use of information and communication technology, and posts them as appropriate in the classroom. *[Revised to clarify content connection to developing and distinguished teacher levels]*	all students and for specific technology resources for students with special needs.
1N8) The newly hired teacher has knowledge of curriculum plans that include subject-specific resources, methods and strategies for informational and instructional technology to support student learning. *[Revised to clarify conceptual connection to Standard 1 and to the content in the developing and proficient/distinguished teacher levels]*	1D8) The developing teacher identifies technology-enhanced, standards based experiences related to the subject area. *[Content added from 5D4]* The developing teacher identifies and uses grade-level appropriate content resources using technology as one mode of presentation.	1PS8) *[Duplication: Alignment, 1.S.3]* The proficient teacher and distinguished teacher select and use available technology resources and content-specific tools that support learner-centered strategies and address the diverse needs of learners.	

2) Understanding and encouraging student growth and development;
The teacher understands how students learn and develop. The teacher provides learning opportunities that support the intellectual, social and personal development of all students.

Newly hired Teacher	Developing Teacher	Proficient Teacher:	Distinguished Teacher
2N1) The newly hired teacher knows and identifies child/adolescent development stages and can apply them to the students with whom they work.	2D1) The developing teacher understands students' physical, social, emotional, moral and cognitive development that influences learning and knows how to address these factors when making instructional decisions.	2P1) The proficient teacher uses models of child/adolescent growth and development to guide his/her understanding of how young people mature and ranges of individual variation within each domain.	2S1) The distinguished teacher assesses individual and group performance in order to design instruction that meets learners' current needs in each domain (cognitive, social, emotional, moral and physical) that leads to the next level of

		The proficient teacher can identify levels of learning and uses that understanding to plan and implement instruction.	development.
~~2ND2)~~ *[Duplication: Theories of learning, 2.4. Brain function has no support in comparison documents; recommend deletion]*		~~2PS2)~~ *[Duplication: Theories of Learning, 2.4. Brain function has no support in comparison documents; recommend deletion]*	
2N3) The newly hired teacher encourages student responsibility through establishment of clear expectations.	2D3) The developing teacher encourages students to be responsible by helping them set goals and carry through with them.	2P3) The proficient teacher assists students to set short- and long-term goals, organize, and carry through with responsibilities in their life.	2S3) The distinguished teacher encourages students to act as responsible members of society and offers students opportunities to practice those skills through service, research or community projects. *[Duplication: Decision Making; 4.1, 6.3, Standard 5]*
2N4) The newly hired teacher demonstrates knowledge of theories of learning by preparing lesson plans.	2D4) The developing teacher uses knowledge of theories of learning by correlating planned instruction with delivery.	2P4) The proficient teacher applies theories of learning by modifying instruction to meet student needs.	2S4) The distinguished teacher continuously applies theories of learning in instruction and stays current on new learning theories and applies them in the classroom.

3) Encouraging *individual* student growth and development;

The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted for diverse learners.

Newly hired Teacher	Developing Teacher	Proficient Teacher	Distinguished Teacher
3N1) The newly hired teacher shows concern for each student with whom they work. *[Duplication: Motivating & Engaging Instruction; 1N2 & 3P2 are more specific]*	3PD1) The developing teacher shows concern for, and establishes a positive relationship with each student. *[Duplication: Clear Communication with Students, 7D1; Motivating & Engaging*	3P1)*[Duplication: Positive Environment, Standard 6; Motivating & Engaging Instruction; 1P2 & 3P2 are more specific; Recommend combining the Developing and Proficient level for this sub-*	3S1) The distinguished teacher cultivates the unique skills and talents of every child. The distinguished teacher creates a trust relationship with students that engages students in learning and encourages

	Instruction; 1D2 & 3P2 are more specific]	*standard]*	students to ask questions, take risks and enjoy learning. *[Duplication: Positive Environment, Standard 6; Motivating & Engaging Instruction, 1S2 & 3S2 are more specific]*
3N2) The newly hired teacher identifies students' prior experiences, learning styles, multiple intelligences, strengths and needs when designing and implementing lessons.	3D2) The developing teacher creates lessons and instructional activities that recognize the individual needs of all learners and variation in prior knowledge/experiences, learning styles, multiple intelligences, strengths, and needs.	3P2) The proficient teacher identifies the zone of proximal development for every student in the classroom and plans and implements instruction accordingly. The proficient teacher meets every child where they are – developmentally, cognitively, physically, affectively, and plans instruction that will engage the student and help them to move forward in their learning and development as informed by district/state guidelines.	3S2) The distinguished teacher uses differentiated instruction to advance the learning of every student in the zone of proximal development. The distinguished teacher provides clear, accurate instruction that advances each student's learning of the curriculum as informed by district/state guidelines and excites interest in students so they want to learn more about the subject being taught. *[Duplication: Student Misconceptions, 1S3]*
~~3N3).~~ *[Content moved to 10N2]*	~~3D3).~~ *[Content moved to 10D2]*	~~3PS3).~~ *[Duplication: Personal learning goals, 8S5; Collaboration & Student Resources and Services; 10PS2; modifies instruction, 3PD2; Problem Solving, 5PD2. Recommend moving remaining content to Standard 5 as a new sub-standard]*	
3N4) The newly hired teacher shows an understanding that instruction should be connected	3D4) The developing teacher understands how students' learning is influenced by	3P4) The proficient teacher creates a learning community in which individual differences	3S4) The distinguished teacher seeks to understand students' families, culture, and

to students' prior experiences and family, culture, and community and models respect for all.	individual experience, talents, and prior learning, as well as language, culture, family and community values and models respect for all.	are respected, and uses teaching approaches that incorporate and are sensitive to the multiple experiences of learners, their family, culture, and community. The proficient teacher teaches respect for all to his/her students.	communities through mutual communications. The distinguished teacher uses this information to connect instruction to students' experiences. The distinguished teacher employs multicultural strategies, teaching respect for all and drawing explicit connections during instruction and assignments that are related to students' experiences and culture.

4) Implementing the curriculum;

The teacher recognizes the importance of long-range planning and curriculum development. The teacher develops implements and evaluates curriculum based upon student, district and state standards.

Newly hired Teacher	**Developing Teacher:**	**Proficient Teacher**	**Distinguished Teacher**
4N1) The newly hired teacher selects and creates learning experiences that are appropriate for curriculum goals. *[Duplication: Relevance to Learners, 3N2; Problem solving & effective Instruction, 5N2]*	4D1) The developing teacher consistently creates learning experiences that are appropriate for curriculum goals and are aligned with state and district curriculum frameworks. *[Duplication: Relevance to Learners, 3D2; Problem solving & effective Instruction, 5D2. Added content moved from 8D6]*	4P1) The proficient teacher creates and facilitates activities based on curriculum outcomes that are aligned with state and district frameworks and assessments. *[Duplication: Critical Thinking/problem solving, 5P2. Recommend revision to clarify focus of sub-standard on alignment of curriculum. Added content moved from 8P6]*	4S1) All aspects of the distinguished teacher's plans – instructional outcomes based on state and district frameworks, learning activities, materials, resources and assessments – are in complete alignment and are adapted as needed to produce growth in individual students. *[Duplication: Critical Thinking & Engagement, 5S1 & 5S2. Recommended added content from 1S3]*

~~4N2)~~ *[Duplication: Differentiated Instruction, 3N2 is more specific]*	~~4D2)~~ *[Duplication: Differentiated Instruction, 3D2 is more specific]*	~~4P2)~~ *[Duplication: Differentiated Instruction, 3P2 is more specific]*	~~4S2)~~ *[Duplication: Differentiated Instruction, 3S2 is more specific. Content related to instructional groups moved to new sub-standard 7S6.]*
4N3) The newly hired teacher can evaluate lesson plans relative to long and short-term goals and adjust them to meet student needs and to enhance learning.	4D3) The developing teacher evaluates lesson plans relative to long- and short-term goals and selects instructional strategies and content to meet student needs and advance learning.	4PS3) The proficient/distinguished teacher evaluates lesson plans relative to long- and short-term goals and adjusts goals and modifies instruction to meet students' needs and enhance learning.	
~~4N4)~~ *[Exact Duplication of 4N3]*	~~4D4)~~ *[Exact Duplication of 4D3]*	~~4P4)~~ *[Duplication, Student Goal-setting and Self-assessment, 8P5]*	~~4S4)~~ *[Duplication, Student Goal-setting and Self-assessment, 8S5]*

5) Teaching for critical thinking;

The teacher uses a variety of instructional strategies to encourage students' development of critical thinking, problem-solving and performance skills, including technological applications.

Newly hired Teacher	Developing Teacher	Proficient Teacher	Distinguished Teacher
~~5N1)~~ *[Duplication: Use of multiple teaching strategies, 1N2, Technology & Resources, 1N8]*	~~5D1)~~ *[Duplication: Use of multiple teaching strategies, 1D2, Technology & Resources, 1D8 & 5D4]*	~~5P1)~~ *[Duplication: Use of multiple teaching strategies, 1P2; Instructional activities for critical thinking, 5P2]*	~~5S1)~~ *[Duplication: Use of multiple teaching strategies, 1S2]* The distinguished teacher serves as a model and mentor for other teachers by offering constructive assistance and demonstrating the use of instructional strategies, materials and technology that maximize student learning. *[Recommend moving content*

			related to resources and technology to 1PS8 to help differentiate proficient level from distinguished]
5N2) The newly hired teacher engages students in active learning that promotes the development of critical thinking, problem solving, and performance capabilities.	5D2) The developing teacher frequently engages students in active learning that promotes the development of critical thinking, problem solving, and performance capabilities.	5P2) The proficient teacher consistently uses instructional activities that require students to practice critical thinking, problem solving, and performance capabilities. *[Duplication: Multiple Perspectives, 1P6]*	*5S2) The distinguished teacher gives students responsibility for their own learning, explicitly teaches critical thinking and problem solving skills and provides frequent instructional opportunities for students to use those skills to advance their own learning. [Content added from 6S3]* *[Duplication: Multiple Perspectives, 1S6]*
5N3) The newly hired teacher demonstrates knowledge, skills, and understanding of general technology operations and concepts.	5D3) The developing teacher identifies functions of the computer describing access, control, and use of classroom computer hardware including input/output devices, and internal and external storage options. *[Content related to hardware has no support in comparison documents, recommend deletion]* The developing teacher describes applications, programs~~;~~ Internet browser~~;~~ and school administrative reporting software.	5P3) The proficient teacher uses common peripheral devices found in the classroom and locates information on uses, care, and basic maintenance of these classroom technology resources.*[Content related to hardware has no support in comparison documents, recommend deletion]* The proficient teacher describes and utilizes teacher and student applications, *[Clarity; "software" redundant to "applications" and references*	5S3) The distinguished teacher uses, compares and evaluates hardware components, software programs, and on-line resources used to provide access to local area networked curriculum materials, Web resources, and multimedia resources. The distinguished teacher identifies, describes, and solves simple hardware, software, and networking problems that occur during everyday use and know how to clearly communicate more serious technical difficulties, need for support, or

	[Duplication: Computer-based curriculum materials and resources, 5D4 & 1D8; applications, 9D5]	*to specific software types]*; spreadsheets, database, and e-mail application software; and common utilities software. *[Duplication: technology curriculum materials and resources, 5P4 & 1PS8]* The proficient teacher identifies and applies menu options to select, create, edit, manage and maintain computer files. *[Content related to managing files has no support in comparison documents, recommend deletion]*	technical assistance to appropriate technical staff. *[Content related to troubleshooting technology has no support in comparison documents, recommend deletion]* The distinguished teacher recognizes, manages, and maintains computer files in a variety of different media and formats. *[Content related to managing files has no support in comparison documents, recommend deletion]*
5N4) The newly hired teacher demonstrates knowledge of plans and designs supported by informational and instructional technology.	5D4) The developing teacher identifies developmentally appropriate technology-based learning resources that address technology standards and individual learner needs. *[Duplication: use of technology to support content-area learning, 1D8]*	5P4) The proficient teacher selects and uses developmentally appropriate technology resources to enhance individual student academic performance and technology literacy. The proficient teacher understands the potential of specific technology, and software to contribute positively to student learning based on established educational research. *[Duplication: Teaching strategies, specifics provided in*	5S4) The distinguished teacher implements and applies technology-based learning activities that promote student engagement in analysis, synthesis, interpretation, and creation of original products. The distinguished teacher applies research on teaching and learning with technology to inform his/her planning of technology-based learning environments and experiences.

		1P2, 1PS8, 2P4. Environmental factors, 6P1]	

6) Creating a positive classroom environment for learning;
The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages active engagement in learning, positive social interaction and self-motivation.

Newly hired Teacher	Developing Teacher	Proficient Teacher	Distinguished Teacher
6N1) The newly hired teacher understands motivational theories and behavior management strategies and techniques.	6D1) The developing teacher uses current motivational theories and basic behavior management strategies and techniques in most classroom situations to create a positive classroom environment.	6P1) The proficient teacher evaluates current motivational theories and behavior management strategies to identify the specific strategies needed to create a positive classroom environment in all classroom situations.	6S1) The distinguished teacher uses effective preventative behavior management strategies and motivational techniques to create a fluid, engaging classroom environment that promotes student learning. *[Revised to reflect comparison documents, OH.5.2.e, NBPTS prop. # 1 & 3]* The distinguished teacher mentors colleagues to help them create a more positive learning environment.
6N2) The newly hired teacher manages time, space, transitions, and activities effectively in most cases**.**	6D2) The developing teacher regularly manages time, space, transitions, and activities effectively.	6P2) The proficient teacher uses effective management of time, space, transitions, and activities and teaches organizational/ behavioral skills conducive to learning to students.	6S2) The distinguished teacher coordinates effective management of time, space, and transitions in classrooms in which students direct their own learning.

~~6N3)~~ *[Duplication: Problem solving, 5N2]*	~~6D3)~~ *[Duplication: Problem solving, 5D2]*	~~6P3)~~ *[Duplication: Problem solving, 5P2]*	~~6S3)~~ *[Duplication: Critical thinking & problem solving, 5S2. Content related to student responsibility moved to 5S2]*
6ND4) The newly hired /developing teacher understands how community norms influence student relationships and considers these norms in the creation of the classroom environment.		6PS4) The proficient/distinguished teacher incorporates positive community norms into the conduct of the classroom. [*Duplication: behavior management, 6S1; coordinates management for student-directed learning, 6S3]*	
6ND5) The newly hired /developing teacher understands school policies/procedures and aligns his/her classroom management with those school practices.		6PS5) The proficient/distinguished teacher's classroom management is consistent with the school management model. The proficient/distinguished teacher uses his/her management plan to support the whole school environment and actively raises questions/ proposes modifications to the school management model in order to facilitate a positive learning environment throughout the school.	

7) Using effective communication;

The teacher models effective verbal, nonverbal and media communication techniques with students and parents to foster active inquiry, collaboration and supportive interaction in the classroom.

Newly hired Teacher	**Developing Teacher**	**Proficient Teacher**	**Distinguished Teacher**
7N1) The newly hired teacher uses effective, correct verbal and non-verbal communication skills.	7D1) The developing teacher uses correct, effective verbal and non-verbal communication skills. These skills include means to communicate with students whose first language is not Standard English or whose disability requires specific forms of communication.	7PS1) The proficient/distinguished teacher consistently uses and fosters correct, effective verbal/nonverbal communication in his/her students and amongst all participants in the classroom through modeling and instructional practices, including means to communicate with students whose first language is not Standard English or whose disability requires specific forms of communication. The proficient/distinguished teacher facilitates effective verbal/nonverbal communication in the school and community	
7NDPS2) The newly hired/developing/proficient/distinguished teacher uses ethical practices in regular communication with students, parents, and colleagues to promote student learning/safety/growth while protecting student and family privacy.			

7ND3) The newly hired/developing teacher demonstrates and promotes sensitivity to differences in culture, gender, intellectual and physical ability in classroom communication and in responses to students' communications.		7PS3) The proficient/distinguished teacher helps students to develop respect for all and sensitivity to cultural, gender, intellectual and physical ability differences in classroom communication and beyond. The distinguished teacher promotes this approach throughout the school and community.	
7N4) The newly hired teacher supports and expands learner expression in speaking, writing, listening, and other media as consistent with district policy.*[Content related to freedom of expression has no support in comparison documents; recommend considering deletion]*	7D4) The developing teacher facilitates safe, freedom of learner expression in speaking, writing, listening, and communication through media as consistent with district policy. *[Content related to freedom of expression has no support in comparison documents; recommend considering deletion]*	7PS4) The proficient/distinguished teacher develops students who direct their own safe, freedom of expression in speaking, writing, listening, and communication through other media as consistent with district policy; these students respect and promote the safe free expression in the communication of all others. *[Content related to freedom of expression has no support in comparison documents; recommend considering deletion]*	
7N5) The newly hired teacher uses a variety of media communication tools as is consistent with district policy.	7D5) The developing teacher uses a variety of media communication tools effectively and consistently as is consistent with district policy.	7P5) The proficient teacher uses a variety of media communication tools consistent with district policy.*[Duplication: student use of media, 7PS4; revision recommended to focus this sub-standard content on teacher use of media technology]*	7S5) The distinguished teacher facilitates the use of a variety of media communication tools by other professionals throughout the school organization. *[Duplication: student use of media, 7PS4; revision recommended to focus this sub-standard content on teacher use of media technology]*
7N6) The newly hired teacher identifies opportunities to employ cooperative learning activities.	7D6) The developing teacher uses a variety of learning situations, such as independent, small group and whole class. The developing teacher creates guidelines for and models	7P6) The proficient teacher effectively combines flexible and varied independent, collaborative and whole-class learning situations to maximize student understanding and	7S6) The distinguished teacher creates environments where students initiate purposeful learning groups and take responsibility for the group's productivity, developing

[New sub-standard. Content added from 1P7, 4S2, and from comparison documents OH, NBPTS, and NC]	cooperative learning to help students define roles, strengthen social ties, and improve communication and collaborative skills. *[New sub-standard. Content added from 1P7, 4S2, and from comparison documents OH, NBPTS, and NC]*	learning. The proficient teacher applies grouping strategies to help students interact with people from different cultures and backgrounds. *[New sub-standard. Content added from 1P7, 4S2, and from comparison documents OH, NBPTS, and NC]*	leadership qualities. The distinguished teacher models and assists other teachers in implementing a variety of learning situations in their classrooms. *[New sub-standard. Content added from 1P7, 4S2, and from comparison documents OH, NBPTS, and NC]*

8) Using data to analyze and modify instruction/assessment;
The teacher uses formal and informal strategies to assess the learner's progress. The teacher uses assessment data to plan ongoing instruction. The teacher monitors the performance of each student and devises instruction to enable students to grow and develop intellectually, socially and physically.

Newly hired Teacher	Developing Teacher	Proficient Teacher	Distinguished Teacher
8N1) The newly hired teacher demonstrates understanding of and the ability to create a variety of formal and informal student assessment techniques (e.g., observation, work samples/ portfolios, teacher-made tests, performance tasks, projects/rubrics).	8D1) The developing teacher effectively uses multiple assessment modes and approaches that are aligned with learning objectives to assess student learning before, during and after instruction.	8P1) *[Duplication: Alignment of activities, objectives, and assessments, 4P1]* The proficient teacher uses a range of assessments throughout the instructional process to identify students' prior knowledge, progress during instruction and achievement at the end of an instructional unit to demonstrate individual and whole class learning.	8S1) The distinguished teacher continuously uses multiple methods for measuring student growth and understanding throughout the instructional process. The distinguished teacher accurately identifies every student's beginning knowledge/skill level and monitors each individual's development during and after each instructional unit. *[Duplication: Modifying instruction based on*

			assessments, 8S6]
8N2) The newly hired teacher considers assessment results to improve learning activities.	8D2) The developing teacher can review trend data to make sure that the individual student and the whole class are advancing. The developing teacher can show growth in learning through comparison of student work, pre-/post-test results or similar mechanisms.	8PS2) The proficient/distinguished teacher has clearly defined performance targets (rubrics, scoring guides, performance analyses) that identify the knowledge and skills they intend for students to acquire and uses those in the instructional process to help the student understand the objectives, set personal goals and learn. *[Duplication: Assessments inform performance on instructional targets, 8P6 & 8S6]*	
8N3) The newly hired teacher can use common assessments. *[Content specifying the use of common assessments has weak support in comparison documents; recommend considering deletion]*	8D3) The developing teacher participates in discussions about and can utilize common assessments. *[Content specifying the use of common assessments has weak support in comparison documents; recommend considering deletion]*	8PS3) The proficient/distinguished teacher can assist peers in the identification of a high quality common assessment. *[Content specifying the use of common assessments has weak support in comparison documents; recommend considering deletion]*	
~~8N4)~~ *[Duplication: formal and informal assessments, 8N1]*	~~8D4)~~ *Duplication: Adjust instruction, 8D6]*	~~8P4)~~ *[Duplication: Adjust instruction, 8P6]*	~~8S4)~~ *[Duplication: Adjust instruction, 8S6]*
8N5) The newly hired teacher understands how students can be taught to self-assess and the value of doing so for instruction.	8D5) The developing teacher uses assessment strategies to involve learners in personal-goal setting and self-assessment activities to help students become aware of their learning	8P5) The proficient teacher purposefully teaches his/her students how to think about their own learning and offers opportunities for students to set personal goals and monitor	8S5) The distinguished teacher continuously engages students in establishment of personal learning goals and self-assessment. The distinguished teacher's students monitor their

	behaviors, strengths, needs and progress.	their own learning.	own learning and use evidence to report on their own progress to the teacher, parents, and others. The distinguished teacher mentors colleagues on these skills.
8N6) The newly hired teacher observes the effect of class activities/ instruction on individual learning and the class as a whole, collecting information through observation of classroom interactions, questioning, and analysis of student work.	8D6) The developing teacher gathers information about the effectiveness of class activities/ instruction in fostering individual and whole class achievement of instructional objectives. The teacher uses this information to modify continuing instruction and to plan for the future. *[Content related to alignment with frameworks moved to 4D1 to improve focus of this sub-standard and prevent overlapping ideas.]*	8P6) The proficient teacher continuously assesses the progress of individual students as well as the whole class and modifies instruction according to assessment results to advance learning of objectives. *[Content related to alignment with frameworks moved to 4P1 to improve focus of this sub-standard and prevent overlapping ideas.]*	8S6) The distinguished teacher uses seamless assessment throughout the instructional process to gather data about individual and class achievement and uses that information continuously to monitor and advance each individual's learning of instructional objectives. The distinguished teacher mentors colleagues on these skills. *[Content related to alignment with frameworks moved to 4D1 and content related to alignment with curriculum moved to 4P1 to improve focus of content in this sub-standard and prevent overlapping ideas.]*
8N7) The newly hired teacher maintains confidential, useful records of student work and performances. He/She can communicate student progress knowledgeably and responsibly, based on appropriate indicators, to	8D7) The developing teacher maintains confidential, useful records of student work and performances and can communicate/provide evidence of student progress, knowledgeably and responsibly, based on	8PS7) The proficient/distinguished teacher maintains clear, confidential, useful, records of student performance. He/She uses multiple data points to detail student achievement and plan strategies for future individual development.	

students or other colleagues.	appropriate indicators, to students, parents, and other colleagues.		
8N8) The newly hired teacher can read and interpret standardized test results. *[Content specifying the analysis of standard-based tests has weak support in comparison documents; recommend considering deletion]*	8DP8) The developing/proficient teacher interprets standardized test results for each student in a class. He/She uses that information for instructional planning. *[Content specifying the analysis of standard-based tests has weak support in comparison documents; recommend considering deletion]*		8S8) The distinguished teacher uses standardized test results to inform individualized instructional planning for each student and assists colleagues to do this as well. *[Content specifying the analysis of standard-based tests has weak support in comparison documents; recommend considering deletion]*
8N9) The newly hired teacher understands the department/grade level/school data analyses process.	8D9) The developing teacher participates in department/grade level/school data analyses processes.	8P9) The proficient teacher works in teams to share and analyze data to measure accomplishment of curricular goals.	8S9) The distinguished teacher helps to establish professional learning communities within the school that lead the school-wide effort to share and analyze data to measure accomplishment of curricular goals and plans for curricular modification.
8N10) The newly hired teacher has knowledge of technology to facilitate a variety of effective assessment and evaluation strategies. *[Content specifying the use of technology for assessment has no support in comparison documents; recommend deletion]*	8D10) The developing teacher uses technology resources to collect student performance data from a variety of resources, identify strengths and areas of weakness, and adjust teaching to improve student learning. *[Content specifying the use of technology for assessment has no support in comparison documents;*	8P10) The proficient teacher uses specialized software to collect and analyze data on student learning to improve instruction and student learning. *[Content specifying the use of technology for assessment has no support in comparison documents; recommend deletion]*	8S10) The distinguished teacher uses results of analysis of computer generated data to inform planning for instructional practice across content areas to maximize student learning.*[Content specifying the use of technology for assessment has no support in comparison documents; recommend deletion]*

	recommend deletion]		

9) Applying reflective practice;
The teacher is a reflective practitioner who continually assesses the effects of choices and actions on others. The teacher actively seeks out opportunities to grow professionally in order to improve learning for all students.

Newly hired Teacher	Developing Teacher	Proficient Teacher	Distinguished Teacher
9N1) The newly hired teacher is a reflective practitioner who applies a variety of self-assessment and problem-solving strategies for reflecting on his/her practice, influence on students' growth and learning, and the complex interactions between them.	9D1) The developing teacher consistently engages in reflective practice. The developing teacher applies a variety of self-assessment and problem-solving strategies for reflecting on his/her practice, the influence of his/her practice on students' growth and learning, and the complex interactions between them. *[Duplication: Use varied assessments, 8D1; Modify instruction based on assessments, 8D6]*	9P1) The proficient teacher continuously applies a variety of self-assessment and problem-solving strategies which have implications for student growth and learning, within the classroom and the larger school environment. The proficient teacher reflects on his/her instructional process and results and uses reflections to modify future instruction. *[Duplication: Use varied assessments, 8P1; Modify instruction based on assessments, 8P6]*	9S1) The distinguished teacher serves as a mentor, teaching colleagues how to do the same. The distinguished teacher plays a leadership role in the use of, policies about, and training for use of assessment data and other sources of information about student performance in the school and/or district. *[Duplication: Use varied assessments, 8S1; Modify instruction based on assessments, 8S6]*
~~9N2)~~ *[Duplication: Ethical & Legal Practices; 1.7 & 7.2. School Policies; 6.5, 7.4, 7.5, 1.7]*	~~9D2)~~ *[Duplication: Ethical & Legal Practices; 1.7, 7.2. School Policies; 6.5, 7.4, 7.5, 1.7]*	~~9PS2)~~ *[Duplication: Ethical & Legal Practices; 1.7, 7.2. School Policies; 6.5, 7.4, 7.5, 1.7]*	
9N3) The newly hired teacher uses resources available for professional development.	9D3) The developing teacher consistently uses resources for professional development and applies knowledge gained from those sources to the benefit of students in the classroom	9P3) The proficient teacher consistently uses resources for professional development and shares expertise with colleagues to the benefit of students in multiple classrooms.	9S3) The distinguished teacher provides leadership at the school and district levels in evaluating and procuring resources for professional development. The teacher also actively participates in professional development in the larger professional

			community.
9N4) The newly hired teacher uses professional ethical practices.	9D4) The developing teacher is consistent and transparent in using professional ethical practices for the benefit of students.	9P4) The proficient teacher is able to assist colleagues and mentors novice teachers in the use of professional ethical practices.	9S4) The teacher takes a leadership role at the school and district levels in framing policies and procedures which are in keeping with the highest ethical practices of the profession and fostering shared responsibility in the school/district for ethical behavior. The distinguished teacher is active in framing policies that influence the larger professional community.
9N5) The newly hired teacher uses technology to enhance personal productivity and professional practice. *[Content related to the use of technology for productivity and professional growth has no support in comparison documents; recommend deletion]*	9D5) The developing teacher uses common technology and information applications and can identify advantages and disadvantages of technology use, and technology uses that support lifelong learning, collaboration, personal productivity. *[Content related to the use of technology for productivity and professional growth has no support in comparison documents; recommend deletion]*	9P5) The proficient teacher is able to design a technology use plan, based on self-assessment, for his/her own professional growth to stay abreast of new and emerging technology resources. *[Content related to the use of technology for productivity and professional growth has no support in comparison documents; recommend deletion]*	9S5) The distinguished teacher is able to engage in technology-based opportunities for professional education and lifelong learning. *[Content related to the use of technology for productivity and professional growth has no support in comparison documents; recommend deletion]*

Missouri Teaching Standards

10) Collaborating professionally.

The teacher has effective working relationships with students, parents, colleagues and community members.

Newly hired Teacher	Developing Teacher	Proficient Teacher	Distinguished Teacher
10N1) The newly hired teacher participates in collegial activities designed to make the school a productive learning environment	10D1) The developing teacher consistently participates in collegial activities designed to make the school a productive learning environment.	10P1) The proficient teacher works with other professionals on instructional policy, curriculum development and staff development at the school level. The teacher collaborates in the development and/or implementation of the school's vision, mission and goals	10S1) The distinguished teacher takes a leadership role in working with other professionals on instructional policy, curriculum development and staff development at the school and the district levels. The teacher collaborates in the development and/or implementation of the district's vision, mission and goals and works to frame supportive school/district policies. The distinguished teacher acts as a trained mentor to assist with relationship building efforts in the school and community for the benefit of students.
10N2) The newly hired teacher is sensitive and responsive to signs of distress, knows sources of specialized services available in the district to meet students' needs, and demonstrates the ability to access those services for students in need in collaboration with colleagues. ~~[~~*Duplication: Communication, 7N1 & 7N2; Content for student services moved from*	10D2) The developing teacher is consistently sensitive and responsive to signs of distress, and identifies and refers students who need specialized district services including special education, LEP, counseling or social work services, medical evaluation or any other service the student needs. The developing teacher collaborates on Individualized Education Plans. *[Duplication:*	10P2) The proficient teacher works with colleagues and administrators at the school level to develop strategic, school-based systems to address student problems and contribute to the overall well-being of students.	10S2) The distinguished teacher takes a leadership role in working with colleagues and administrators at the school and district level to develop school and district-based systems to address student problems and contribute to the overall well-being of students. The distinguished teacher expands upon this leadership in working with the larger professional community to identify and

3N3]	*Communication, 7D1 & 7D2; Content for student services moved from 3N3]*		provide needed services to students.
10N3) The newly hired teacher seeks opportunities to develop relationships with the parents and guardians of students, and seeks to develop cooperative partnerships in support of student learning and well-being.	10D3) The developing teacher develops relationships with the parents and guardians of students, and develops cooperative partnerships in support of student learning and well-being.	10P3) The proficient teacher works with colleagues and administrators at the school level to develop school-based partnerships with parents in support of student learning and well-being.	10S3) The distinguished teacher takes a leadership role in working with colleagues and administrators at the school and district level to develop school and district-based partnerships with parents in support of student learning and well-being.
10ND4) The newly hired and the developing teacher identifies and uses appropriate school personnel and community resources to promote learning.		10P4) The proficient teacher works with colleagues and administrators to develop school-based resources and utilizes community resources to promote learning.	10S4) The distinguished teacher takes a leadership role in working with colleagues and administrators to develop school and district-wide resources and cultivate community resources to assist students to reach their full potential. The distinguished teacher works in the larger professional community.

END

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5 CSR 80-850.045 Mentoring Program Standards

PURPOSE: This rule establishes standards for successful mentoring programs.

(1) A successful mentoring program will include, but may not be limited to, the standards listed below:

(A) An introduction to the cultural environment of the community, school district, school building, and classroom that:

1. Provides awareness of school and district policies, procedures, and mission (teacher and student handbooks, Comprehensive School Improvement Plan (CSIP), goals, etc.);

2. Expresses community norms/local expectations (community tour, housing, medical facilities, faith community, etc.);

3. Complements professional organizations at district and state/national levels;

4. Discusses classroom equality gender/race/abilities;

5. Is a systematic and ongoing introduction to data analysis, assessment practice and process, etc. (not a one (1)-day workshop);

6. Includes district initiatives and parental concerns; and

7. Defines professional and district acronyms (Adequate Yearly Progress (AYP), Missouri School Improvement Program (MSIP), Individuals with Disabilities Education Act (IDEA), Parent Teacher Organization (PTO), etc.).

(B) A systemic and ongoing program review/evaluation by all stakeholders:

1. Identifies all stakeholders;

2. Identifies mentoring outcomes, how they will be measured, and timelines;

3. Gathers regular and systematic feedback from mentor, protégé, and administrators to determine if mentoring is working (might include pre- and post-surveys for mentors and protégés and may include information on retention rates/numbers, levels of job satisfaction, student achievement, or cost of turnover);

4. Is based on a foundation of best practices;

5. Requires independent/anonymous exit interviews of staff (may be connected to beginning educators' survey at state level) so clear reasons for staff departures can be determined;

6. Is supported by central office and school board—trend data; and

7. Is included in broader Professional Development (PD) program evaluation (locally and on Missouri School Improvement Program reviews).

(C) An individualized plan for beginning educators that aligns with the district's goals and needs that:

1. Is aligned with the department's Performance Based Teacher/Educator Evaluation (PBTE) standards;

2. Is a systematic and concise mentoring and professional development plan that prioritizes the immediate and future needs of the new educator;

3. Aligns with district's CSIP and certification requirements;

4 Establishes outcomes for new educators;

5. Is an extension or part of a professional development plan that may have begun during student teaching/internship or culminating project in college;

6. Establishes classroom or on-the-job observations that are guided by practices. Observations should include pre- and post- observation conferences, including reflective questions; and

7. Encourages structured experiences and expectations for all new educators.

(D) Appropriate criteria for selecting mentors that:

1. Should have a minimum of three (3) years of experience;

2. Have traits such as enthusiasm and job commitment;

3. Are committed to self-growth as well as mentoring;

4. Hold a same or similar position/job of grade/subject area (in- or out-of-building/district);

5. May use a mechanism to end pairing if either mentor or protégé is not satisfied;

6. Understand broad educational issues as well as specific teaching/education issues;

7. Have a strong understanding of pedagogy, instructional expertise, and relevant administrative issues;

8. Are available to mentor (release time, fewer additional assignments);

9. Are assigned collaboratively by administrator(s) and local professional development committee with input from grade-level or department chair; and

10. Are supported in time/effort by administration and school board.

(E) Comprehensive mentor training that:

1. Recognizes mentoring is NOT evaluation; confidentiality is required between mentor and protégé (except in situations of child endangerment);

2. Includes cognitive coaching skills along with collaborative training;

3. Includes observation and feedback training/skills;

4. Provides an awareness of phases of first-year educators (stress, depression, etc.);

5. Provides training on mentoring standards, performance-based evaluation requirements, certification requirements, and local expectations;

6. Includes a catalogue of resources available for beginning educators;

7. Recognizes the need for knowledge and strategies on classroom management;

8. Encourages small districts to form mentoring consortia (may use existing structures to form consortia (e.g., conference schools);

9. Focuses on exemplary teaching and assessment practices;

10. Builds working strategies that encourage problem solving and independent thinking;

11. Provides understanding of student assessments and how educators can utilize them to guide instruction; and

12. Includes self-assessment that identifies whether mentoring is meeting both the mentor's and protégé's expectations.

(F) A complete list of responsibilities for the mentor, beginning teacher and administrator(s) is addressed in Appendix A.

(G) Sufficient time for mentors to observe beginning educators, and for the beginning educators to observe master educators, are structured to provide multiple opportunities over time to minimize the need to require substitute teachers to facilitate observations by:

1. Aligning class schedules and planning periods to complement mentoring duties;

2. Utilizing state and local professional development funds, Career Ladder, or stipends to support mentors' additional duties;

3. Providing release time for coaching, observation, and meeting (minimum of three (3) each year); and

4. Encouraging college support of resources, on-line classes, personal visits, and/or beginning educators' assistance programs.

APPENDIX A

TOPIC	Beginning Teacher	Mentor or Professional Development Committee	Principal	District, PDC and School Board	College or University	DESE, Associations, and Others
SELECTION		PDC collaboratively assists in selection and pairing	Principal or superintendent collaboratively assists in selection and pairing	PDC collaboratively assists in selection and pairing		
TRAINING		Mentor attends training	Attends mentor traiing and supports mentor and protégé	Provides policy and support for ongoing mentor training program	Provides awareness or expectation for graduates and may provide training for mentors	Provides regional training for mentors with cognitive coaching information
CONTACT	Seeks contact prior to beginning of school year	Contacts protégé and welcomes him/her to community. Confirms first meeting	Contacts protégé and welcomes him/her to community. Arranges first meeting	Provides curriculum guides, handbooks and pertinent grade/subject level information	Instructs student teachers on expectation of mentoring	
COMMUNICATION	Seeks support and assistance with mentor and colleagues	Follows through on contacts and individualizes topics for protégé	Assures mentor and protégé communicate regularly	May provide district-wide opportunities for mentors and protégés	Provides a minimum of annual contact for 1st & 2nd year teachers	Supports communication between colleges and new teachers
CONFIDENTIALITY	Maintains confidentiality at all times and appreciates assistance	Maintains confidentiality at all times and reinforces trust	Appreciates mentor/protégé confidentiality and does not undermine effort	Remains neutral party.		
DOCUMENTATION	Maintains log/list of in-service, professional workshops, reading, and organizational activities	Reviews documentation	Reviews formal professional development plan	Keeps required documentation for beginning educators and mentors for verification purposes	May collect data on strength or weakness of first-year teachers	May assist in data collection and review
PROFESSIONAL DEVELOPMENT PLAN	Maintains and regularly evaluates personal plan; shares with mentor	Assists in development of the PD plan and encourages growth and career advancement	Supports new educators' professional development plans	Protégé and support team complete end-of-year district checklist or assessment	May provide ongoing or advanced coursework	Provides models and workshop opportunities
SUPPORT			Supports time for observation, collaboration,& compensation	Formalizes written guidelines, mentor time & resources	Offer support to graduates from any Missouri college	Develops rules and standards
EVALUATION OF MENTORING PROCESS	Participate in formal evaluation of mentoring program	Participate in formal evaluation of mentoring program	Participate in formal evaluation of mentoring program	Develops mentoring assessment/evaluation tool that aligns with standards and assesses formal evaluation of mentoring and makes revisions	May utilize information to improve preparation programs	Provides models; evaluates for MSIP purposes

ROBIN CARNAHAN (8/31/08) CODE OF STATE REGULATIONS 13
Secretary of State
Chapter 850—Professional Development 5 CSR 80-850
14 CODE OF STATE REGULATIONS (8/31/08) ROBIN CARNAHAN
Secretary of State
19 CSR 20-28—DEPARTMENT OF ELEMENTARY AND
SECONDARY EDUCATION Division 80-Teacher Quality and Urban Education
ROBIN CARNAHAN (8/31/08) CODE OF STATE REGULATIONS 15
Secretary of State
Chapter 850—Professional Development 5 CSR 80-850 *AUTHORITY: sections 160.720, 161.092, and 161.375, RSMo Supp. 2007.* Original rule filed Oct. 29, 2002, effective June 30, 2003. Rescinded and readopted: Filed Jan. 18, 2008, effective Sept. 30, 2008. *Original authority: 160.720, RSMo 2002, amended 2004; 161.092, RSMo 1963 amended 1973, 2002, 2003; and 161.375, RSMo 2007. *Original authority: 160.530, RSMo 1993.*

(Formatted from original found in Mo Code of State Regulations, Chapter 850—Professional Development, 5 CSR 80-850. P. 13-15)

Evaluating the Statewide System of Support

with Rubrics, Explanations, and Exemplars

Susan Hanes, Thomas Kerins, Carole Perlman, Sam Redding, & Steven Ross

Center on Innovation & Improvement

Information Tools Training

Positive results for students will come from changes in the knowledge, skill, and behavior of their teachers and parents. State policies and programs must provide the opportunity, support, incentive, and expectation for adults close to the lives of children to make wise decisions.

The Center on Innovation & Improvement helps regional comprehensive centers in their work with states to provide districts, schools, and families with the opportunity, information, and skills to make wise decisions on behalf of students.

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Academy States	**Regional Comprehensive Centers**
Alaska	Alaska Comprehensive Center
Arkansas	Mid-Continent Comprehensive Center
Idaho	Northwest Regional Comprehensive Center
Illinois	Great Lakes West Comprehensive Center
Louisiana	Southeast Comprehensive Center
Michigan	Great Lakes East Comprehensive Center
Montana	Northwest Regional Comprehensive Center
Oklahoma	Mid-Continent Comprehensive Center
Virginia	Appalachia Regional Comprehensive Center

Table of Contents

The Growing Strength of Statewide Systems of Support 7

Statewide System Evaluation Rubric 19

Explaining the Rubric 39

Illustrating the Indicators 40

Illustrating the Scoring System 59

Evaluating the Outcomes of the SSOS 89

The Growing Strength of Statewide Systems of Support

Sam Redding

Introduction

The past few years have been a time of rapid evolution in statewide systems of support, and many states are now poised to establish internal mechanisms for ongoing, formative evaluation of their systems and to engage consultants in periodic, external evaluations. To assist with evaluation, formative and summative, internal and external, the Center on Innovation & Improvement (CII) offers this guide, based on rubrics aligned with the framework presented in CII's *Handbook on Statewide Systems of Support* (Redding & Walberg, 2008).

The *Handbook* presents a framework for an effective statewide system of support, built around incentives for change, opportunity for change, and capacity for change, with an undergirding process for monitoring the system's activities and evaluating its effectiveness. The *Handbook* rests this framework on an evidence review, provides profiles of four states (Alabama, Kentucky, Tennessee, and Washington), and reports from eight regional comprehensive centers on their work with states. The *Handbook* and related technical assistance tools have been used by regional comprehensive centers with nearly half the states to hold each state's system up against the framework, identify areas of strength and areas for further development, and make plans to strengthen the system. Shortly after the publication of the *Handbook*, CII conducted a survey of school improvement leaders in state education agencies in all 50 states, the District of Columbia, and Puerto Rico. The results of this survey were published in *Coherence in the Statewide System of Support* (Kerins, Perlman, & Redding, 2009), which also featured an additional state profile (Ohio) and interviews with federal and state personnel regarding the legitimate use of different funding streams to address improvement needs in districts and schools. Later, CII published *Singing Out of the Same Songbook: The Standards-Aligned System in Pennsylvania* (Tanney, 2009), a case study of the Pennsylvania system of support.

When the Elementary and Secondary Education Act was reauthorized in 2002, it carried forward from the previous authorization language requiring states to provide "statewide systems of support" for local education agencies receiving federal Title I funds. The statute directed states to apply a triage approach, channeling

supports and interventions first to districts and schools where student performance was weakest, and it outlined three strategies to be included in the systems:

- distinguished educators, leaders, and teachers who have been successful in Title I schools, to consult and coach in districts and schools receiving assistance;
- school support teams to review improvement plans and recommend appropriate services to address deficiencies; and
- partner organizations and consultants to extend the reach of support beyond the state agency's own personnel.

The more stringent accountability measures also included in the 2002 reauthorization compelled state education agencies to accelerate their transformation from compliance-oriented bureaucracies to improvement-focused technical assistance providers. This transformation reinforced a direction many states had already begun, stemming from the reform and standards movements of the 1980s and 1990s.

To various degrees, state education agencies have migrated from funnels for funding streams and enforcers of regulation to prods and supports for school improvement, although responsibility for assuring compliance has not gone away. Increasingly, states are bringing coherence to disparate funding streams and programs, matching resources with operational need, and validating regulatory compliance with a sharper eye on effectiveness. Random acts of technical assistance, scattered programs and projects, and loose affiliations with external partners are being drawn into more intentional systems of support. Examination of student learning data is being balanced with careful scrutiny of the district or school's operational effectiveness, including the daily practices of adults that impact student outcomes.

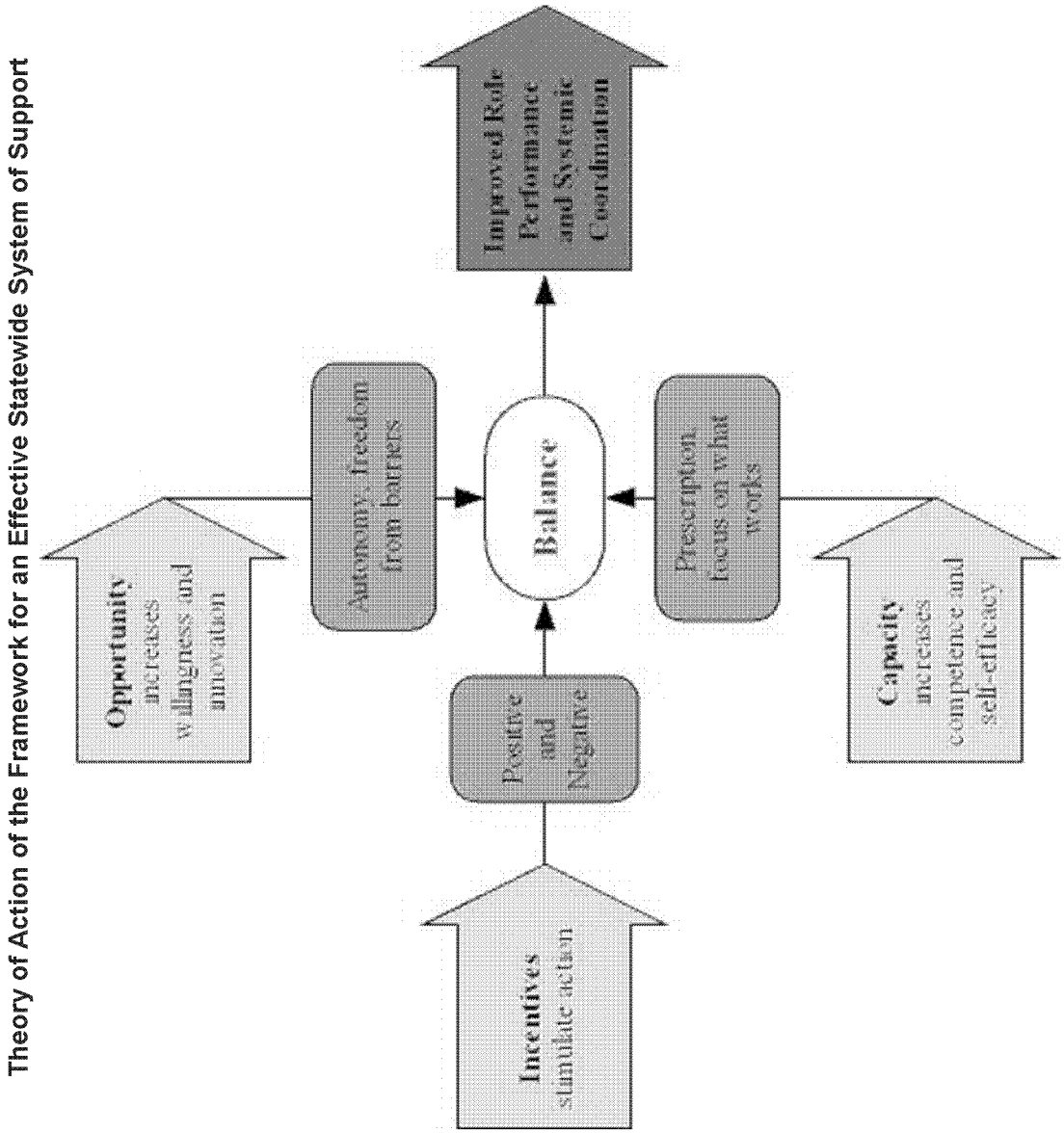
Well-designed and competently managed statewide systems of support are now strengthening the state climate for school improvement by:

- providing incentives (positive and negative) for districts and schools to take the reins in their own improvement;
- removing regulatory barriers to local ingenuity and encouraging innovation;
- enhancing the supply of high-quality leaders and teachers, especially for hard-to-staff districts and schools; and
- providing sophisticated planning and data systems as tools for improvement.

As these measures improve the capacity of the education system throughout the state, the rising tide is gently lifting most boats. To elevate the trajectory of improvement in particular districts and schools, however, states are learning to more efficiently manage their school improvement resources by diagnosing operational effectiveness and providing supports to address gaps. Instead of chunking all districts and schools with similar student outcomes into broad categories to receive standardized assistance, states are targeting services to address operational and performance gaps identified through more rigorous local self-assessment, coached self-assessment, and external review.

An effective statewide system of support, then, includes three levers for change: Incentives, Opportunity, and Capacity, as shown in Figure 1: Levers for Change in a Statewide System of Support. Capacity is built both systemically and through targeted assistance to specific local districts and schools.

Figure 1: Levers for Change in a Statewide System of Support



From *Framework for an Effective Statewide System of Support*, by Sam Redding, 2009, p.5. © Academic Development Institute 2009. Reprinted with permission from the author.

Evaluating a statewide system of support requires attention to the three levers of change—opportunity, incentives, capacity—as well as the structure and coordination of the systems itself and the effectiveness of the system in improving schools and increasing student learning.

While the transformation of state education agencies from regulatory/compliance bureaucracies to more agile and proactive catalysts for school improvement has succeeded in lifting the floor of performance for many districts and schools, each state continues to struggle with pockets of low performance often located in communities with weak or poorly organized capacities for change. The standard approach to improvement—diagnosing operational effectiveness and providing supports to address gaps—is insufficient in these situations. States are challenged to simultaneously:

- strengthen the foundational system of education, including the supply of human capital, and strong accountability, planning, and data systems;
- provide incentives and opportunity for districts and schools to drive their own continuous improvement, innovate, and get results;
- efficiently diagnose and remediate specific deficiencies in districts and schools making inadequate progress; and
- rid the state of the pockets of chronic low performance.

In leading the charge to turn around chronically low-performing schools, states must not relent in building the systemic capacity for continuous improvement or be detoured from perfecting their methods for determining and addressing specific local needs for districts and schools that are on a steady improvement trajectory. To do otherwise will only contribute to the number of schools that drift toward candidacy for turnaround.

Differentiated Systems of Support

States are moving toward differentiated systems of support that vary the type, intensity, and duration of assistance along two metrics: 1) the district or school's current level of performance as measured by student learning outcomes, especially on state standards assessments, and 2) the district or school's particular operational strengths and weaknesses as determined by diagnosis of both disaggregated student learning data and patterns of practice in the operation of the district or school, particularly in areas of leadership, curriculum, and instruction. Student learning outcomes (students testing at levels of proficient or better on state assessments) are used to classify schools as:

- on a satisfactory trajectory of continuous improvement;
- in need of rapid improvement, transformation (significant increase in student performance over two or three years) in order to reach a satisfactory trajectory of continuous improvement;
- in need of turnaround—dramatic improvement over one or two years; or
- candidate for closure because of persistent low performance and lack of response to prior supports and interventions.

For schools and districts on a satisfactory trajectory of continuous improvement, the state may provide an improvement planning process based on **indicators of effective practice**, self-assessed by district and school improvement teams. For schools and districts in need of rapid improvement, the state may introduce corrective actions and/or restructuring measures alongside an improvement planning process based on **indicators of effective practice**, assessed by the district or school improvement team with guidance/coaching from the statewide system of support and/or by an external review. For schools where dramatic turnaround is necessary, staff replacement is usually required, the nature of which may be determined by external review. External reviews may be conducted by district- or state-provided teams.

The means of diagnosing operational effectiveness (practices that contribute to student learning), then, varies according to the district's or school's current level of performance and capacity for change, as indicated in Table 1.

Table 1: Current Performance, Capacity for Change, Improvement Trajectory, and Means of Diagnosis and Planning

Current Performance	Capacity for Change	Improvement Trajectory	Means of Diagnosis and Planning
Adequate and steadily improving	Strong	Continuous	Self-assessment and planning or coached self-assessment and planning
Inadequate and not improving or improving at slow rate	Moderate	Rapid (transformation)	Coached self-assessment and planning and/or external review
Chronically inadequate and not improving	Weak	Turnaround	External review to determine turnaround method; leader-directed and coached self-assessment and planning thereafter in district-managed turnarounds
Chronically inadequate and not improving	Null	Closure	

In a school closure, the students are reassigned to other schools, but in a turnaround the students remain in a school that is dramatically changed. In a district-managed turnaround, replacement of staff is part of the dramatic change, and that replacement may vary from a change in principals and strategic replacement of some teachers to wholesale replacement of all staff. While staff replacement may remove barriers to improvement related to the inadequacy of human capital (knowledge, skills, attitudes of personnel), the practices of the newly-assembled staff must be markedly more effective than those of the former staff. In a district-managed turnaround, a combination of leader-focused turnaround actions and coached self-assessment and planning are necessary following the staff replacement. In fact, the leader must be granted greater authority in further staff replacement and reassignment, after the initial turnaround method has been enacted.

Unlike district-managed turnarounds, in which the school remains within the scope of district operations but with new staff, greater leader direction, and coached self-assessment and planning, a "re-start" turnaround essentially removes the school from normal district governance. The most common means of re-start turnarounds are performance contracting and charter schools. Depending upon statutory and policy requirements in the state and district, the district may itself serve as the charter authorizer (thus converting the school from district-managed to charter status) or it may, in effect, close the school as a district school while an externally authorized charter school opens.

There are several variations on the re-start theme. For example, Louisiana's Recovery School District includes both charter schools and charter-like, district schools. The charter-like schools are given both the autonomy and firm accountability that is afforded a charter school. Just as a charter school may lose its charter, or an external management organization may lose its contract because of inadequate performance, a charter-like district school may be closed or converted to a charter school if it does not perform. Chicago's contract schools and union-operated schools are other hybrids of the re-start mode.

In a district-managed transformation for schools in need of rapid improvement, some staff replacement, especially that of leadership, is usually necessary. But change in personnel is only the beginning of more fundamental change in practice that is necessary and that requires state and district support. Particularly, the

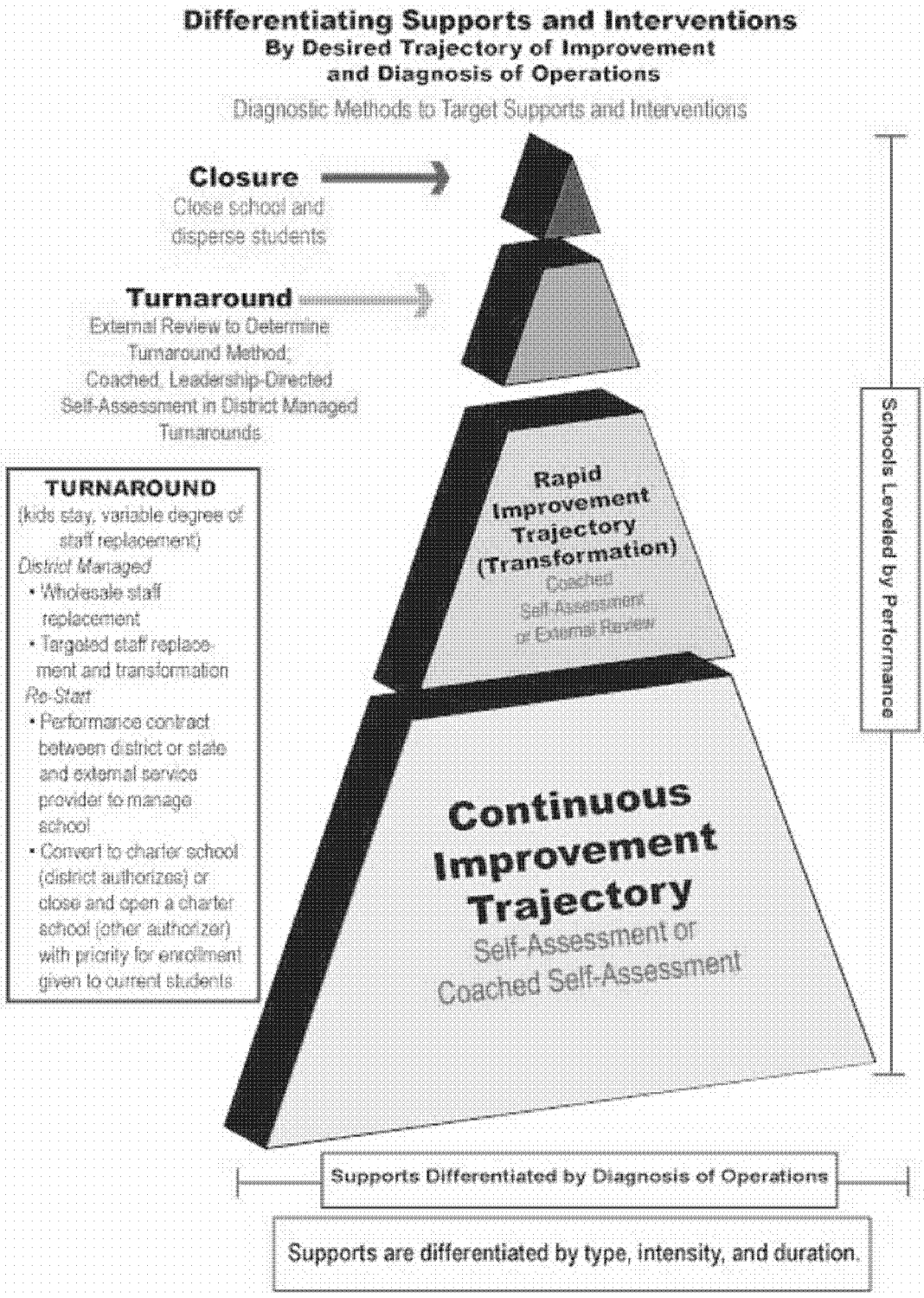
decision-making structures (leadership and teams) must be sound , rigorous, and nimble; instructional planning and delivery must comport with effective practice; student learning time must be increased, teacher collaborative planning must be increased in time and rigor; and school and community supports for student social and emotional learning and family engagement must be provided.

The ultimate goal in a state's system of support for school improvement is for the people attached to a school to drive its continuous improvement for the sake of their own children and students. The state offers incentives, provides opportunity, and builds both systemic and local capacity to reach this goal. Incentives, opportunity, and capacity are levers for change, and in a social system like education, change resides in the behaviors of people. Schools simply need the right people doing the right things for each student, and doing them well. In some cases, the school needs people with different knowledge, skills, and attitudes than the current staff possesses. In most cases, the current staff needs new knowledge, skills, and processes for collegial learning, planning, and improvement.

School turnarounds represent one strategy for a particular group of chronically low-performing schools within a statewide system of support that differentiates its supports and interventions based on a district or school's current performance (student learning outcomes) and diagnosis of operational effectiveness. The necessity for turnarounds and closures results, in part, from the ineffectiveness of the state system in elevating schools' improvement trajectories before they are determined to be chronically low performing. Therefore, instituting policies and procedures for turning around and closing schools must coincide with continued emphasis on strengthening the system of support's overall effectiveness.

The possibility of a state-initiated turnaround or closure is an incentive for districts and schools to conscientiously engage in substantial improvement. The reality of turnarounds and closures must be that the students previously served by these schools immediately find themselves in much better situations, and that their own learning trajectories are significantly improved. Thus, not only is the system rid of the pockets of low performance, but current and future students are saved from the predictable consequences of inadequate education. A tiered approach to building local capacity while turning around the most deficient schools is illustrated in Figure 2: Differentiating Supports and Interventions.

Figure 2: Differentiating Supports and Interventions



The District Role

While incentives, opportunity, and capacity are the levers of change in a statewide system of support, they are also levers that can be applied by a district. Just as a state may incentivize constructive change by rewarding success and providing consequences for failure, so can a district. States provide greater opportunity for change by removing regulatory barriers, granting greater local autonomy, and encouraging innovation and "new space;" districts can do the same for their schools. States enhance the supply of human capital (leaders and teachers), and so can districts, especially in getting high-quality, motivated personnel in the schools that need them most. States provide rich and accessible data systems and planning processes, and districts can do likewise. Just as states differentiate supports to efficiently address diagnosed district and school operational deficits, districts can approach school improvement in the same manner.

Effective statewide systems of support include the district as a central player in the improvement of its schools. This requires attention at three levels:

- the operational effectiveness of the central office and board in taking care of district functions;
- the district's infrastructure for school leadership, teaching, and learning; and
- the district's support for the improvement of individual schools.

The state builds district capacity for improvement by providing supports at all three levels. Especially, the state ensures that the district applies its own tiered and differentiated supports for schools, including turnaround strategies and, in extreme cases, procedures for closure. When the state intervenes or provides support directly to a school, it includes the district as an integral participant in the activity, thus modeling an appropriate district role and building district capacity for school improvement.

Proximal Variables That Affect Student Learning

A statewide system of support must have sufficient reach to influence the variables closest to the student without being so intrusive and cumbersome that it diminishes rather than builds local capacity and desire for improvement. The instructional core—student (with parents), teacher, content—contains the variables that ultimately impact learning, but this core is affected by multiple spheres of influence, all of which must be part of the state system's calculations for fostering improvement.

The proximal variables (see Wang, Haertel, & Walberg, 1997) contributing to student learning include:

The student's –

1. **prior learning**, which teachers have provided;
2. **metacognitive skills**, which can be taught;
3. **motivation to learn and sense of self-efficacy**, which a teacher nurtures;
4. **effort and time on task**, which a teacher expects;
5. **interaction**—academic and social—with teachers and other students;
6. **family's engagement** and support for learning, which a teacher curries.

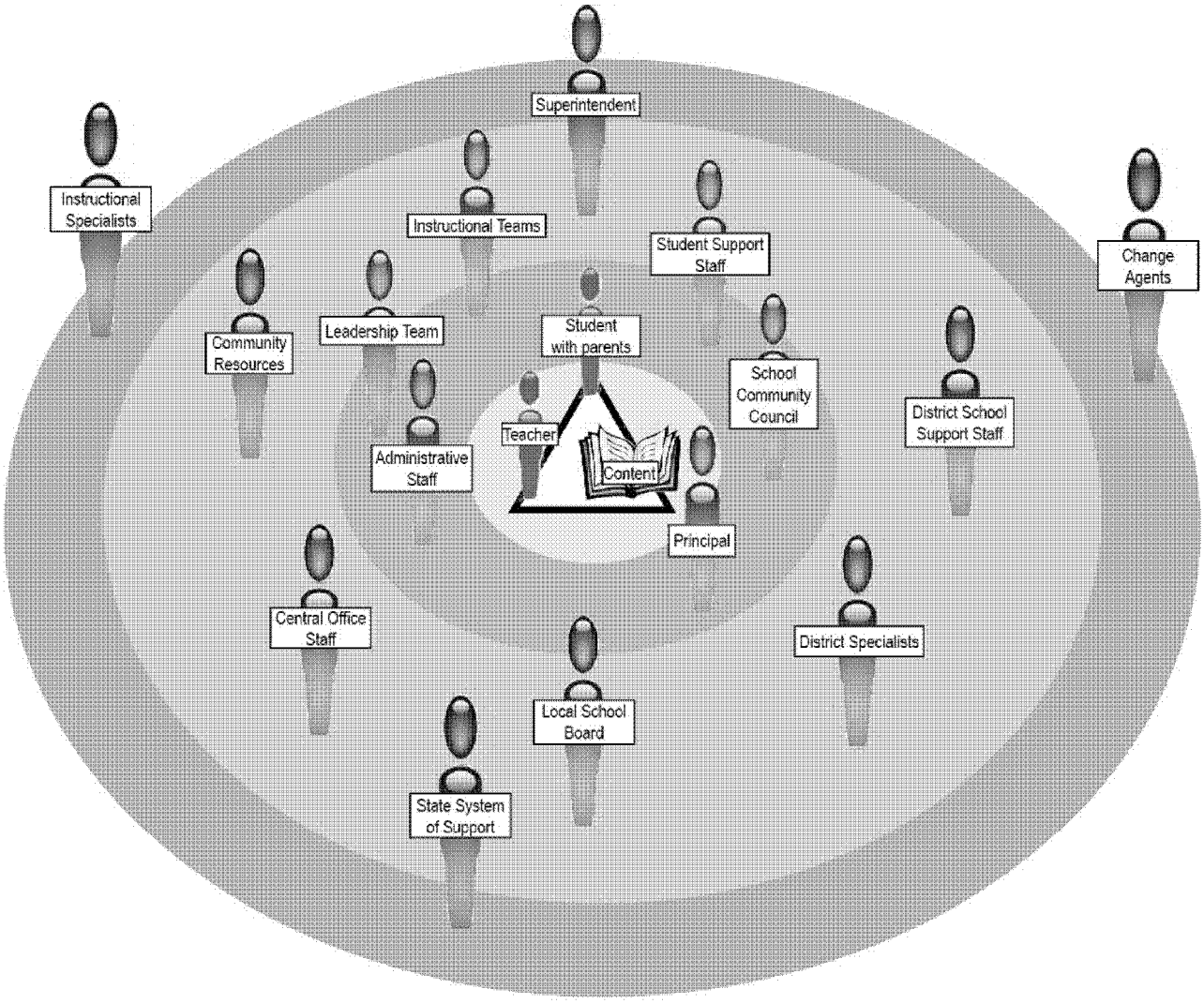
The teacher's -

7. **instructional planning and classroom management**;
8. **instructional delivery** through a variety of modes;
9. **personalization (individualization) of instruction** for each student;
10. **taught and aligned curriculum**, designed by teacher teams.

The challenge for the statewide system of support is to skillfully apply its levers for change—incentives, opportunity, capacity—to influence the behaviors of people throughout the education system in ways that enhance the instructional core. Because the ultimate goal is for the people attached to the school to drive

improvement, states (as well as districts) must take care not to create barriers to school-level initiative and innovation. Ideally, a "culture of candor" is established at each level of the system that fosters objective scrutiny of data about the performance of adults and that of students, continuously learning and changing to get better results. Figure 3 illustrates the multitude of people in several spheres of influence on the instructional core.

Figure 3: Spheres of Influence on the Instructional Core



Conclusions

Building a strong statewide system of support requires pruning away ineffective programs, policies, and regulations as much as creating effective initiatives to spur district and school improvement. As states have adopted a systems approach to school improvement, they have realized the necessity of restructuring state offices, realigning relationships with intermediate units and external partners, and streamlining the coordination of the various personnel, departments, and organizations that form the system of support. Striving for coherence and clarity of purpose is a prime factor in improving the system of support, and achieving efficiencies is another. Because the state's resources are finite, services to districts and schools must be carefully

matched to the specific operational deficiencies they are intended to remediate. The more the state is able to build the capacity and desire of districts to support their schools' improvement, the more efficiently the state can allocate its own resources, especially its personnel. One way for the state to build district capacity is to work alongside district staff to assist one or more schools in need of substantial improvement, thus modeling improvement strategies while engaging the district in the process, a step toward greater district responsibility for the performance of its schools.

At both the state and district levels, caution must be exercised to avoid stepping on the school's ability to candidly assess its own practices, solve its own problems, and improve the learning outcomes for its own students. Incentives, the positive and negative pressures that induce people to raise their expectations of themselves, are often a low-cost and high-leverage improvement strategy. Likewise, giving opportunity for creative improvement by removing regulatory barriers, encouraging innovation, and granting more autonomy, can often inspire ingenuity and personal investment in the task at hand.

Both the state and the district enable schools to succeed by first doing their own jobs well—tending to the efficient management of their functions to provide a reliable climate for school improvement. The state and district's dependable allocation of resources, coherent policies, and competent administration of programs and services are foundational for schools to make progress. So too are useful data and planning systems and the supply of high-quality leaders and teachers.

Finally, the state and the district must be adept at intervening when progress is inadequate. The predictability of intervention is itself an incentive for the school to ramp up its improvement efforts. The actuality of intervention is that external supports can remediate specific operational weaknesses. Again, effective intervention and efficient application of state and district resources dictate that support services address diagnosed areas of operational deficiencies. While examination of disaggregated student learning data may point to areas in need of improvement, student data are only the consequence of ineffective practice. Diagnosis must discern the patterns of practice, especially in the zone of proximal contributors to student learning—curriculum, instruction, and formative assessment. Because delivery of standards-aligned and differentiated instruction begins with instructional planning on the part of teacher teams and individual teachers, the teaming and planning practices should be examined, as well as the leadership that directs them.

Schools with strong internal capacity for continuous improvement are able to assess their practice and plan for improvement based on this candid assessment of evidence-based practices. Providing these schools with indicators of effective practice, expressed in plain language, behavioral terms, and a continuous planning and improvement process rather than an annual reporting requirement enables schools with strong internal capacity to march forward with good results. Schools that require external support are more likely to need coached self-assessment and planning, a process that places a district or state coach in a position to provide guidance and feedback at each step of the self-assessment and planning process. Again, the assessment and planning process should be continuous, with a fully engaged improvement team coached by the external consultant, rather than a requirement for annual submission of a plan.

Schools with weak internal capacity, needing to embark upon a trajectory of rapid improvement, most likely need a change in leadership and definitely require a change in leadership practice. In addition to the coached self-assessment and planning that an improvement team may undertake, the leader needs strong support and preparation for setting the school on a dramatically changed course of operation. Research on leader actions in rapid improvement and turnaround situations provides guidance on what the leader must do and what kinds of supports the leader must be given.

When rapid improvement does not result from a combination of new leadership (or new leadership practices) and coached self-assessment and planning, the school is a candidate for turnaround. This

typically indicates a need for staff replacement beyond that of the leader. An external review of operational practices can determine the appropriate turnaround method and indicate which staff must initially be replaced or reassigned. In some cases, the need may be for staff with different skill sets than those currently available, which could be accomplished either with an increase in total staff or with replacement of some current staff (however competent) with staff who possess more needed skills. In any turnaround situation, even after initial turnaround measures are taken, the leader must be given authority to make further staff replacements and reassignments. Reassignment may mean moving strong teachers to grade levels or subjects where they are needed most, placing specialists in classrooms, or in other ways redistributing the skill sets of personnel or students' access to them.

Some turnaround methods dramatically change the way a school is governed and the conditions under which it operates. For example, re-start in charter status frees the school from standard district policies and procedures while also placing higher accountability requirements that could result in forfeiture of the charter if performance is not sufficient. Performance contracting with an external management organization similarly increases both autonomy and accountability. This formula of greater autonomy and accountability can also be applied to charter-like district schools.

The chief caveat in turnaround attempts is that autonomy and accountability only increase the incentives and opportunity for change, they do not guarantee that change is sufficient or productive. With staff replacement, the capacity for change may be improved, in terms of the human capital now available in the building, but again capacity does not always equate with performance. In all cases, the consequences of autonomy, accountability, and enhanced human capital must be seen in the routine application of effective practices in order to achieve learning results for students. In other words, the methods of turnaround are stage setters that alter school culture and increase the possibility for improved practices of leadership, curriculum development and alignment, instructional planning, and instructional delivery in ways that truly matter. But once the stage is set, the actors must act.

Sustaining the positive effects of interventions is assured when the internal operating practices of the school are changed (e.g., strong teaming practices and a "culture of candor" are in place) and the external supports are not too precipitously removed. The district and state roles are essential in both achieving initial improvement and sustaining its results. Always, the right mix of incentives, opportunity (autonomy), and capacity for effective practice must be achieved and maintained.

This guide for evaluating statewide systems of support takes into account the current policy environment without overly emphasizing the specific regulations accompanying funding streams so as to be adaptable over time as policies and regulations are changed. The guide is based on sound and universal principles for coherent state support systems, applicable to a variety of state and local contexts.

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Resources from the Center on Innovation & Improvement

These documents and many other resources are available for download at: www.centerii.org

Statewide Systems of Support

Handbook on Statewide Systems of Support

Framework for an Effective Statewide System of Support

Coherence in Statewide Systems of Support

Singing Out of the Same Songbook: The Standards Aligned System in Pennsylvania

Evaluating the Statewide System of Support

Exploring the Pathway to Rapid District Improvement

The Mega System: Deciding, Learning, Connecting

School Turnarounds

Handbook on Restructuring and Substantial School Improvement

School Turnaround: A Review of the Cross-Sector Evidence on Dramatic Organizational Improvement

School Turnaround: Actions and Results

Tough Decisions: Closing Persistently Low-Performing Schools

Performance-Based Dismissals: Cross-Sector Lessons for School Turnarounds

Breaking the Habit of Low Performance: Successful School Restructuring Stories

Services Provided by the Center on Innovation & Improvement

Strengthening the Statewide System of Support—a self-assessment and planning process for the state education agency, facilitated by the regional comprehensive center

Indistar—web-based diagnostic and planning tools for the state, district, and school; for continuous and rapid improvement trajectories, and including a special planning tool for turnaround leaders

Parent Involvement Analysis—web-based self-assessment and planning tool for a school-based team with electronic reporting to the district and state

Academy of Pacesetting States—intensive, year-long training and support for state teams to bring their systems of support to high levels of effectiveness; supported by regional comprehensive centers

National Network of State School Improvement Leaders—network, webinars, and resources for state education agency and comprehensive center staff who work in school improvement; co-sponsored with the Council of Chief State School Officers

Support for School Improvement E-Newsletter—monthly e-newsletter co-sponsored with the Council of Chief State School Officers

Statewide System Evaluation Rubric

Statewide System of Support Evaluation Rubric

For each of the essential indicators your SEA has chosen, please select the description that best describes your state system of support (SSOS). Note that in order to attain a score of "III," the state SSOS must have met the conditions for getting a score of "II." Similarly, in order to attain a score of "IV," the SSOS has also met the conditions for attaining scores of "II" and "III."

Part A: SSOS Plan and Design

1. Specified comprehensive plan for SSOS

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
1.1 Design and organization of a statewide system of support (SSOS)	There is no identifiable, clearly defined system of support for schools and districts with academic problems.	There is a written, publicly available statement, including goals, objectives and timelines describing the SSOS.	The state has an operations manual, including an organization chart, depicting the offices, both within and external to the SEA, that have responsibilities in implementing the SSOS.	The state has role descriptions for each person and office within the SSOS to formalize its integrated planning.
1.2 Oversight and coordination of the statewide system of support	There is no plan for oversight or coordination of resources and services to schools and districts.	There are written plans for oversight or coordination of resources and services to schools and districts.	The state has begun integrated planning among programs in order to maximize resources and coordinate services to districts and schools, but the integration is not yet fully operational.	A systematic process for coordinating planning and resource allocation across programs has been implemented. The state has evidence of greater efficiency in resource allocation and delivery of services.
1.3 Differentiating support to districts and schools	The state has no clearly defined procedures to determine which schools/ districts receive SSOS services and resources and the amounts and types of services provided.	The state has developed clearly defined, written criteria (including a needs assessment) and procedures to determine which schools/districts receive services from the SSOS and the amounts and types of services provided.	The state has implemented clearly defined, written criteria (including a needs assessment) and procedures to determine which schools/districts receive services from the SSOS and the amount and types of services provided.	The state has evidence that it provides different levels and amounts of intensive support based on student performance and documented needs for improvement.

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
1.4 Meaningful state planning process for districts and schools	The state has no clearly defined process for the districts/schools served by the SSOS to devise and implement plans to improve student performance.	The state has a clearly defined written process for districts and schools being served by its SSOS to develop and implement plans to improve student performance.	The state has developed and regularly offers schools/districts served by the SSOS appropriate training and materials to develop and implement improvement plans.	The state has evidence that schools and districts served by its SSOS participate in appropriate training and engage in systematic planning to improve student performance.
1.5 State policy for intervening in districts and schools that repeatedly fail to meet SEA expectations for student performance	There is no clear policy authorizing the state to directly intervene with schools/districts based on low performance.	The state has written authority to intervene in schools/districts because of unacceptable performance, but lacks clear criteria to determine when or how to intervene.	The state has a clearly documented plan for intervening in schools/districts not meeting SEA expectations for performance outcomes.	The state systematically implements corrective actions according to the plan and documents what intervention actions were taken with each school/district, including its efforts to help districts with needed school restructuring.

2. Defined evidence-based programs/interventions for all students & subgroups

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
2.1 Helping schools and districts better serve students with disabilities	There is no formal state plan for assisting districts/ schools whose students with disabilities fail to meet achievement targets.	The state has developed a written plan for assisting districts/schools whose students with disabilities fail to meet achievement targets.	The state has begun to implement its written plan for assisting districts/ schools whose students with disabilities fail to meet achievement targets.	The state has fully implemented its written plan for assisting districts/ schools whose students with disabilities fail to meet achievement targets.
2.2 Coordination of services for students with disabilities across SEA departments and programs to maximize service and reduce duplication	There is no formal state plan for integrating its district/school assistance policies and programs to better serve students with disabilities.	The state has developed a written plan for integrating its district/school assistance policies and programs, regardless of distinct funding sources, to better serve students with disabilities.	The state has begun to implement its written plan for integrating its district/ school assistance policies and programs, regardless of distinct funding sources, to better serve students with disabilities.	The state has fully implemented its written plan for integrating its district/school assistance policies and programs, regardless of distinct funding sources, to better serve students with disabilities.
2.3 Helping schools and districts better serve English language learners	There is no formal state plan for assisting districts/ schools whose English language learners fail to meet achievement targets.	The state has developed a written plan for assisting districts/schools whose English language learners fail to meet achievement targets.	The state has begun to implement its written plan for assisting districts/ schools whose English language learners fail to meet achievement targets.	The state has fully implemented its written plan for assisting districts/ schools whose English language learners fail to meet achievement targets.
2.4 Coordination of services for English language learners across SEA departments and programs to maximize service and reduce duplication	There is no formal state plan for integrating its district/school assistance policies and programs to better serve English language learners.	The state has developed a written plan for integrating its district/ school assistance policies and programs, regardless of distinct funding sources, to better serve English language learners.	The state has begun to implement its written plan for integrating its district/ school assistance policies and programs, regardless of distinct funding sources, to better serve English language learners.	The state has fully implemented its written plan for integrating its district/school assistance policies and programs, regardless of distinct funding sources, to better serve English language learners.

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
2.5 Reduced achievement gaps	The state has a data system that can document achievement gaps over time, but there is no systematic process for using that data.	The state has a process and requirements for schools and districts to use the achievement gap data in school planning.	The state has supplemented its process with identification of evidence-based strategies to reduce achievement gaps.	The state assists districts and schools in implementation of strategies to reduce achievement gaps. There is evidence that achievement gaps have been narrowed.

3. Plan for evaluation

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
3.1 Documentation of school/district activities	There is no written plan to document SSOS work with districts and schools.	There is a written documentation plan, but it has not been implemented.	The state has begun to implement the documentation plan.	The state has a fully operational system for documenting SSOS work with districts and schools.
3.2 Documentation of district/school perceptions	There is no written plan for collecting data from staff in districts and schools about their perceptions of SSOS services.	There is a written plan for collecting data from staff in districts and schools about their perceptions of SSOS services, e.g. delivery of targeted training to match documented needs.	The state has systematically collected perception data.	The state has used the perception data to improve its SSOS.

3. Plan for evaluation

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
3.3 State system to evaluate the SSOS	There is no written evaluation plan to determine the effectiveness of the SSOS.	There is a written evaluation plan, but it has not been implemented. Evaluation criteria include student achievement outcomes and district and school evaluations of state services.	The state has completed an evaluation of the effectiveness of its SSOS.	The state has used the results of the evaluation to improve its SSOS.

Part B: Resources

4. Staff

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
4.1 Enhancing the supply of teachers and administrators skilled in school improvement	The state does not have formal strategies to enhance the supply of teachers and administrators skilled in school improvement.	The state has written plans for increasing the supply of teachers and administrators skilled in school improvement.	The state has implemented its written plan using a variety of strategies (e.g., incentives, statutes, policies, and partnerships with institutions of higher education) to increase the supply of teachers and administrators skilled in school improvement.	There is evidence that the state has increased the supply of teachers and administrators skilled in school improvement.

4. Staff

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
4.2 Incentives for addressing a more equitable distribution of highly qualified teachers within and across districts	The state has no plan to address the quality of teachers in schools identified as needing improvement.	The state has a plan to encourage highly qualified teachers to teach in elementary and high schools identified as needing improvement.	The state has partially implemented its plan to place highly qualified teachers in elementary and high schools identified as needing improvement.	The state has systematically implemented its plan to achieve more equitable distribution of highly qualified elementary and high school teachers within and across districts. There is evidence equitable distribution has improved or been achieved.
4.3 Highly effective teacher recruitment and retention	The state has no plan to enhance recruitment, and retention of highly effective teachers.	The state has a written plan to enhance recruitment and retention of highly effective teachers.	The state has begun to implement its plan to enhance recruitment and retention of highly effective teachers.	The state has fully implemented its plan to enhance recruitment, and there is evidence that recruitment and retention have improved.
4.4 Highly effective administrator recruitment and retention	The state has no plan to enhance recruitment and retention of highly effective administrators.	The state has a written plan to enhance recruitment and retention of highly effective administrators.	The state has begun to implement its plan to enhance recruitment and retention of highly effective administrators.	The state has fully implemented its plan to enhance recruitment and retention, and there is evidence that recruitment and retention have improved.

5. Funding

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
5.1 Coordination among state and federal programs	There is no apparent plan to efficiently coordinate programs with different funding sources that are aimed at improving schools receiving SSOS services.	The state has a written plan and has made some preliminary attempts to integrate multiple state and federal programs aimed at school improvement.	The state has begun to integrate multiple programs with common goals but different funding streams in areas such as planning, resource allocation, training, reporting, and compliance monitoring.	The state has fully implemented its program integration plan, and there is evidence of greater efficiency in planning, resource allocation, and compliance monitoring.
5.2 State assistance to districts or schools in assessing their use of financial resources to fund improvement efforts	The state has no process in place to help districts or schools analyze their budgets to align financial resources with identified needs.	The state has a plan for facilitating local analysis of budgets, including written guidance on aligning financial resources with identified needs.	The state provides budget advice upon request for identified districts/schools as they plan to allocate their financial resources to improve student learning.	As an extension of its formal system, the state has budget staff who visit schools as part of the SEA monitoring process to help local staff evaluate, analyze, and reallocate resources to improve student learning.

6. Data analysis and storage

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
6.1 Strong state data system	The state has a data system that meets minimum ESEA requirements.	The state is developing an integrated data system that reduces redundancy in data collection and that provides timely, accurate, and user-friendly data to inform school and district improvement.	The state provides a timely, accurate, and integrated data system that reduces redundancy in data collection and which informs school and district improvement. The system provides a wide variety of indicators, e.g., longitudinal trends for student subgroups, school report cards, and attendance and graduation rates.	There is evidence that there is reduced redundancy in data collection, and that districts and schools use the state's data system to inform decisions that positively impact instruction.
6.2 SSOS use of assessment data	The state uses results from the assessment system to make decisions about the implementation of its SSOS.	The state has a clearly documented process for using state assessment results to determine ESEA population needs and provide differentiated SSOS services to districts and schools.	The state has begun implementation of the process for using state assessment results to determine ESEA population needs and provide differentiated services to districts and schools served by its SSOS.	The state has fully implemented and documented its process for using state assessment results to provide differentiated services. The state documents how it uses its assessment system as a tool in the development of further resources, e.g., training, to assist targeted districts and schools.

7. Distinguished educators, consultants, experts, etc.

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
7.1 Matching schools/districts with distinguished educators, support teams	There are no systematic procedures for matching schools and districts with distinguished educators/ support teams based upon qualifications and identified needs.	There are written plans for systematic matching of schools/districts with distinguished educators/ support teams based upon qualifications and needs identified from student data.	There is a systematic matching of schools and districts with distinguished educators/support teams based on needs identified from student data. All or nearly all low-performing districts/schools are being served by distinguished educators or support teams.	The state uses data to evaluate the distinguished educators/support teams. There is evidence from district/school surveys or other data that distinguished educators/ support teams have had a positive impact in helping districts/schools to plan and implement strategies and structures for raising student achievement.
7.2 Training for distinguished educators and support teams	There is no documented plan for training distinguished educators/ support teams.	The state has developed and documented a training plan and policy, based on a formal needs assessment, to prepare distinguished educators and support teams to assist districts/ schools.	In accordance with the state plan, distinguished educators/support teams receive initial and ongoing training, that addresses identified needs.	All distinguished educators/support teams receive initial and ongoing training and there is evidence that the training is revised based on input from trainees, identified needs, and student achievement outcomes.

8. External providers

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
8.1 Organizational partners in the statewide system of support	There is no evidence that the state has formed partnerships with other organizations to further the goals of its SSOS.	There are limited partnerships or written plans to create partnerships with entities outside the state education department, e.g., universities, non-profit groups, business, unions, and intermediate educational units.	Multiple partnerships with entities outside the state education department have been implemented. These partnerships include collaboration and shared decision-making in the area of school and district improvement.	There is evidence that these external partnerships have been actively implemented and resulted in increased resources and services for school and district improvement.
8.2 Supplemental Education Services (SES) monitoring and evaluation	There is no clearly defined procedure to approve, monitor or evaluate SES providers.	There are written procedures to approve, monitor, and evaluate SES providers and some initial actions have taken place in all three areas.	Systematic and comprehensive plans have been developed and implemented for approving and monitoring SES providers. Preliminary (descriptive) evaluations of providers are conducted annually.	Systematic, full, and coordinated processes for approving, monitoring, and evaluating providers are regularly implemented and formatively evaluated.

Part C: Implementation

9. Removal of barriers to change and innovation

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
9.1 State opportunities for change	The state has not developed a process or initiated efforts to identify and remove barriers to change.	The state has worked with schools and districts to identify barriers to change, e.g., legislation, state board rules, facilitating alternate routes to certification, etc.	The state has a formal, documented process that has been implemented for addressing identified barriers.	Evidence exists that districts and schools have availed themselves of increased opportunities, e.g., requests for waivers from state rules.
9.2 Creating options for new types of schools, including charter schools	The state has not taken actions to create options for new types of schools via legislation and/or development of a written plan.	Written plans have been developed for creating new types of schools.	The state has implemented legislation allowing for new types of schools.	Evidence exists that there are a variety of new types of schools in the state.

10. Incentives for change

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
10.1 State consequences for poor performance	The state uses only the sanctions for low performance required by ESEA.	Written plans have been developed to levy consequences for low performance over and above those required by ESEA.	Clear information on implemented consequences for low performance over and above those required by ESEA has been disseminated to districts, schools, and the public.	There is evidence that consequences for low performance over and above those required by ESEA have been levied by the state.
10.2 State positive incentives for improvement	No positive incentives are provided districts or schools for improved academic achievement (e.g., special recognition, financial or other awards, and/or greater autonomy).	The state has written plans for awarding positive incentives to districts or schools for improved academic achievement.	The state has implemented a system of positive incentives for districts and schools with improved academic achievement.	There is evidence that the positive incentive(s) provided by the state promoted an increased number of school/district programs and conditions for raising student achievement.
10.3 Public disclosure of district and school performance	The state discloses school and district performance data only as required under ESEA.	Limited school and district data are sent to parents or are available at a public website.	Data and reports are sent to parents, and the state's website includes user-friendly and timely information. Communications to parents are made in multiple languages as appropriate.	There is evidence that the reports and website are used and are helpful to users. Refinements are made based on user feedback.

11. Communications

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
11.1 Clear and systematic communication paths exist within the statewide system of support	There is no documented plan for a statewide communication system among those who provide support such as state education department employees, regional offices, universities, and other elements of the SSOS.	There is a written plan to structure, improve, and increase communication within the SSOS.	Using the structured communication plan, there is regular and systematic communication within the SSOS.	There is evidence that the communications are being used to improve services and support. The state formatively evaluates the quality and accuracy of its communication to the field and service providers.
11.2 Clear and systematic communication paths exist between the state/SSOS and districts/schools	There are no documented procedures for communication between the state/SSOS and districts/schools.	There is a written plan to structure, improve, and increase communication between LEA staff and the state/SSOS.	Using the clear and structured communication plan, there is regular and systematic communication.	There is evidence that the communications are being used to improve services and support. The state formatively evaluates the quality and accuracy of its communication to districts and schools.

12. Technical assistance

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
12.1 Delivering training to districts and schools in school improvement planning	The state does not have a formal, documented process for training districts and schools in school improvement planning.	The state has a documented training plan to prepare districts/schools for some, but not all, of the following: needs assessment, development, implementation, monitoring, and evaluation of school improvement plans.	The state has a comprehensive, documented training plan to prepare school and district personnel in needs assessment, development, implementation, and evaluation of school and district improvement plans. Implementation of that plan has begun.	The state training plan for districts and schools is fully implemented, and the quality of services is regularly evaluated. There is evidence that training has had a positive impact on school improvement planning and implementation.
12.2 Building parent involvement into school improvement	The state has no written plan to provide training on how to include parents in the school improvement process.	The state has a written training plan and provides limited training opportunities for districts and schools on how to include parents in improvement planning.	The state systematically provides training opportunities for districts and schools identified for improvement on how to include parents in the improvement process.	The state has evidence that districts/schools are implementing the strategies promoted in the training. The state refines the training plan based on systematic evaluation of the effects of the training on parental involvement.

13. Dissemination of knowledge

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
13.1 State dissemination of knowledge and/ or research based practices	The state does not have a process for making its products available to help districts and schools with school improvement (e.g., manuals on curriculum alignment, instructional improvement, and parental involvement).	The state is developing a systematic, documented process for dissemination and regularly disseminates some available current knowledge to support local school improvement efforts.	The state has implemented a systematic process for soliciting and responding to districts' and schools' need for information about key topics that support local school improvement efforts (e.g., curriculum, instruction, parent involvement, and special populations).	There is evidence that districts and schools use the knowledge disseminated by the state in their efforts to improve student achievement.
13.2 State-specific products to help identified districts and schools	The state has products to help districts and schools with school improvement (e.g., manuals on curriculum alignment, instructional improvement and parental involvement).	The state has posted its list of products on its web site and made the list readily available to local education personnel, consultants, regional delivery agencies, and others who provide services.	The state has actively worked with service providers to match available products to the needs of identified districts/schools.	The state has evidence that districts/schools are using the available products and find them to be beneficial. The state also works with local personnel and service providers to evaluate and subsequently modify its present products and guide its search for additional relevant resources.

14. Monitoring and program audits

Essential Indicators	I Little or No Development or Implementation	II Limited Development or Partial Implementation	III Mostly Functional Level of Development and Implementation	IV Full Level of Implementation and Evidence of Impact
14.1 State program audits	The state has no system in place to conduct program audits in schools and districts identified for ESEA sanctions.	The state has a formal program audit process in place geared for site visits to schools and districts identified as needing improvement.	The state's program audit process contains clear criteria and is systematically being implemented in identified schools/districts.	There is evidence that the recommendations from state audit visits have been implemented by schools/districts and have had a positive impact on school improvement processes.
14.2 State process in place to disseminate the status of districts and schools	There is an ESEA sanction list of districts and schools, but it is not clear how long they have been on the list or the rationale for placement.	There is an annually updated, tiered list of districts and schools, the number of years they have been on the list, and an explanation of how they came to be on the list.	The state's list includes the interventions that have been used for the schools and districts.	There is an analysis showing how many districts and schools have moved off the list and which ones have moved off and then returned. The analysis identifies which interventions are associated with moving schools off the list and includes recommendation for future intervention plans.
14.3 State process in place to monitor the progress of individual districts/schools	The state has no process in place to monitor the progress of districts/schools on ESEA sanctions lists.	The state has a written plan in place for state staff and consultants to monitor identified districts/schools to ensure that they have implemented their improvement plans.	The state regularly (at least yearly) monitors how well districts/schools are meeting their improvement targets and monitors how well districts/schools are providing high-quality curriculum, using effective instructional methods, and meeting their improvement targets.	Using these data, members of the SSOS regularly evaluate the progress of districts and schools and suggest modifications in local staff practices. There is evidence that such modifications have been implemented by districts and schools.

Part D: Outcomes for Schools Served by the Statewide System of Support

Essential Indicators	I	II	III	IV
15.1 Student Achievement	Fewer than 25% of schools/districts targeted for improvement have met state benchmarks in student achievement.	More than 25% but fewer than 50% of schools/districts targeted for improvement have met state benchmarks in student achievement.	More than 50% but fewer than 75% of schools/districts targeted for improvement have met state benchmarks in student achievement. At least one rigorous evaluation, sponsored by the state or school districts, has been conducted this year to determine the effects of major programs or interventions on student achievement.	At least 75% of schools/districts targeted for improvement have met state benchmarks in student achievement. At least two rigorous evaluations, sponsored by the state or school districts, have been conducted this year to determine the effects of major programs or interventions on student achievement.
15.2 Student attendance	Fewer than 25% of schools/districts targeted for improvement have met state benchmarks for attendance.	More than 25% but fewer than 50% of schools/districts targeted for improvement have met state benchmarks for attendance.	More than 50% but fewer than 75% of schools/districts targeted for improvement have met state benchmarks for attendance. The state can identify and show supportive evidence for, at least one program or intervention implemented this year to increase attendance in districts/schools.	At least 75% of schools/districts targeted for improvement have met state benchmarks for attendance. The state can identify and show supportive evidence for, at least two programs or interventions implemented this year to increase attendance in districts/schools.

Essential Indicators	I	II	III	IV
15.3 Graduation rate	Fewer than 25% of schools/ districts targeted for improvement have met state benchmarks for graduation rate.	More than 25% but fewer than 50% of schools/ districts targeted for improvement have met state benchmarks for graduation rate.	More than 50% but fewer than 75% of schools/ districts targeted for improvement have met state benchmarks for graduation rate. The state can identify, and show supportive evidence for, at least one program or intervention implemented this year to increase graduation rates in districts/schools.	At least 75% of schools/ districts targeted for improvement have met state benchmarks for graduation rate. The state can identify and show supportive evidence for at least two programs or interventions implemented this year to increase graduation rates in districts/schools.

Explaining the Rubric

Susan Hanes, C. Thomas Kerins, Carole Perlman, Steven Ross

Introduction

The indicators listed in the Evaluation Rubric are explained using examples from multiple sources, but especially the CII documents: *Coherence in Statewide Systems of Support* and the *Handbook on Statewide Systems of Support.*

This section explains each Essential Indicator more fully by using examples of activities researchers found when visiting Alabama, Kentucky, Ohio, Tennessee, and Washington. Additional information from a national survey conducted by CII is also included for illustrative purposes. For example, Indicator 4.2 declares that a SEA has: "Incentives for addressing a more equitable distribution of highly qualified teachers within and across districts." A detailed example from interviews in Ohio is then provided to help explain what the authors mean by this indicator statement. For each indicator, the state that is the source of the information has been identified. Some of these states' practices may have changed or expanded since the original information was provided. These examples do not necessarily represent a level four on the rubric, but they do describe some of the activities that states have conducted related to these indicators.

The second section provides illustrations to help users understand the issues involved in deciding how to score their SEA's placement on the rubric's scale. Of particular importance are the issues involved in differentiating between Categories II and III as well as III and IV. The SEA responses to the 2008 CII survey of all state systems of support provide the basis for the exemplars. However, for many of the indicators, the responses did not provide sufficient information to create a meaningful example. In these cases, we provide elaborations to create richer illustrations. For that reason, individual SEAs are not referenced in this part of the chapter.

The authors believe that by supplying this level of detail, users will be able to make reliable and valid judgments of the status of their state systems of support. The rubric can be used over time to document positive changes by individual indicator and section as well as a documentation of changes throughout the overall SSOS.

Illustrating the Indicators

Part A: SSOS Plan and Design

1. Specified comprehensive plan for SSOS

1.1 Design and organization of a statewide system of support (SSOS)

For this indicator, the range of possibilities extends from having no identifiable, clearly defined system of support for schools and districts with academic problems to the state having role descriptions for each person and office within the SSOS to formalize its integrated planning.

Alabama faced the daunting task of trying to unify and coordinate the state's support services. The goal was to ensure that all Alabama schools needing improvement received coordinated assistance from a unified delivery system.

To accomplish this, the Deputy Superintendent charged the directors of several departments to work together. She then organized an Accountability Roundtable whose mission is to provide a coordinated, seamless system of continual technical assistance and support to schools in the areas of curriculum, instruction, fiscal responsibility, management, and leadership. Technical assistance to schools as defined by the state accountability legislation is coordinated through this Accountability Roundtable and provided by the State Support Team.[1] The SST provides technical assistance and support to all schools with focused assistance to LEAs and schools that do not make AYP.

1.2 Oversight and coordination of the statewide system of support

For this indicator, the range of possibilities extends from having no clearly identifiable plan for oversight or coordination to a systematic process for coordinating planning and resource allocation, including evidence of effect.

In Kentucky, the process of improvement planning focuses school and district improvement efforts on student needs by bringing together all stakeholders to plan for improvement, by focusing planning efforts on priority needs and closing achievement gaps between subgroups of students, by building upon school and district capacity for high quality planning, and by making connections between the funds that flow into districts.

Examples of how Kentucky has implemented integrated planning among programs to coordinate services include their system of Highly Skilled Educators (HSEs). They have been able to organize the identified schools around a common focus of improved student learning using the Kentucky Scholastic Audit and Review process—a comprehensive analysis conducted by the HSEs of the learning environment, efficiency, leadership, culture, and academic performance of schools and districts.

In terms of organizing people, Kentucky has the Instructional Support Network to build the capacity of district administrators to provide leadership in making connections between planning for instruction and planning for professional development; it is these connections that provide the foundation for continuous school improvement. One example of coordination is the Voluntary Partnership Assistance Teams. These teams focus on the districts most in need of assistance. SEA staff, along with an HSE, join a school board member, selected by the Kentucky School Board Association, and an administrator, chosen by the Kentucky Association of School Administrators, to make up a team. All the members of each team are from districts that have succeeded in raising student achievement. The superintendent of the struggling district is the chair of the group.

Finally, Kentucky has a Bureau Leadership Planning Team composed of the commissioner, the deputy, and all associates. They meet at least monthly to discuss, review, and evaluate the statewide system of support. Additionally, two key associate commissioners share the responsibility for day-to-day activities around statewide support. The SEA relies heavily on its approach of cross-agency decision making,

[1]The State Support Team (SST) is comprised of the SDE staff of the Instructional Services Division as well as the Alabama Math and Science Technology Initiative (AMSTI) Site Directors and Math and Science Specialists, Alabama Reading Initiative (ARI) Regional Partners and Regional Reading Coaches, Regional School Improvement Coaches, and Peer Mentors.

maximizing limited resources, and shared ownership of initiatives and responsibilities.

1.3 Differentiating support to districts and schools

For this indicator, the possibilities range from the state having no clearly defined procedures to determining which schools/districts receive SSOS services and resources to the state having evidence that it provides different levels and amounts of intensive support based on student performance.

Tennessee has implemented a sophisticated approach to providing differentiated services. First, the state launched a program of Exemplary Educators (EE) who serve as mentors to principals and teachers, analyze student performance data, connect with professional development providers, and build capacity for continuous school improvement. A major part of their training prepares them to provide different degrees and levels of support according to the needs of the districts/schools.

Secondly, Tennessee relies on its February 2007 publication, *What is a Good School Appraisal Guide and Rubric,* as the focus of its work with districts on curriculum, instruction, organization, and assessments (both formative and summative). This *Guide* is used as the basis of site visits which result in an individual school profile of strengths and areas of planning needs. The EE personnel use these profiles to guide their assistance. The *Appraisal Guide* employs a set of criteria defining effective schools as well as a connected set of standards and measurement statements with matched rubrics.

Districts that have been identified as not meeting the required accountability benchmarks must annually address certain components in their consolidated application for federal funds. To help local personnel to do this, Exemplary Educators are assigned to these districts and schools based on their specific needs. Their training enables the EEs to provide these differentiated services. These EEs help identified districts organize their priorities and respond to a series of questions about important issues such as the gap between their present curricular practices and what they believe they should do to increase student learning. This analysis includes reflective questions for staff on how they can better use their time, money, personnel, and other resources to make necessary changes. The subsequent analysis of the data provides an opportunity to pinpoint where technical assistance and differentiated services are needed.

The Tennessee process requires these local personnel to collect, disaggregate, analyze, and synthesize the data to focus on improving student achievement. Subsequently, every local goal that is developed has to be linked to data. Tennessee provides EE services to assist these local educators until the school is off the high priority list.

1.4 Meaningful state planning process for districts and schools

The performance levels for this essential indicator range from no clearly defined process for districts/schools to devising and implementing plans to improve student performance to the state showing evidence that schools and districts served by its SSOS participate in appropriate training and engage in systematic planning to improve student performance.

The state of Washington uses the *School Improvement Planning Process Guide* as a planning document that leads the principal and school community through a cycle of continuous improvement. The *Guide* provides a variety of processes, resources, and graphic tools to engage all stakeholders in developing deeper, sustainable change in schools. The Washington SEA in partnership with the Washington Association of School Administrators produced a companion document for districts, *School System Improvement Resource Guide*, to assist districts with their improvement efforts.

Washington enters into a two-year Performance Agreement contract with identified schools that show how the school, school district, and the SEA will support the successful implementation of the school's improvement plan. Prior to the development of this plan for improvement, the district, school staff, and the SEA consider ways in which the district can support the school and staff during the planning process. The agreement is organized around a template of 30 district commitments and 8 state commitments. The template serves as a guide for dialogue between the district and the SEA.

Participants consider types of evidence that would demonstrate support for each of these agreed-upon commitments. One example of a district commitment is: The district agrees to provide supplemental funding for specific professional development activities for instructional staff based upon strategies identified in the school improvement plan.

Washington commits the use of a system of external facilitators who are paid by the SEA to provide direct services to school systems. For example, School and District Improvement Facilitators assist local educators to implement the improvement process (including a needs assessment and education audit). They help craft the Performance Agreements mentioned above as well as the subsequent revision of local improvement plans. While they mentor principals, the plan is to build capacity and not reliance. The Facilitators have no authority, but they carry significant responsibilities as external change agents. They work with the SEA, the district, and a School Improvement Leadership Team to develop and revise a current plan to address identified needs and prepare and implement the jointly developed Performance Agreement. They help the school staff identify and eliminate barriers to change and promote necessary school consensus for change.

Among the evidence showing the effect of Washington's process are outcomes from several evaluations. One finding indicated that fidelity of implementation of school improvement efforts has been strong for each of the three cohorts of schools that have gone through the Performance Agreement process using the Facilitators. Another is that 65% of respondents felt that student achievement had increased during their three years as measured by the percent of students meeting the standard on the Washington state reading and math tests.

1.5 State policy for intervening in districts and schools that repeatedly fail to meet SEA expectations for student performance

The cells for this essential indicator range from a lack of clear policy authorizing the state to directly intervene with schools/districts based on low performance to the implementation of a systematic plan that documents what interventions took place with each school/district.

Ohio's policy is to use a Tri-Tier model of school improvement support to deliver differentiated technical assistance based upon need to all districts with the greatest emphasis on the 147 districts that have been identified by the SEA as being of the highest priority (Tier 1).

The Tri-Tier Model requires districts to go through a cycle. They begin by identifying critical needs and developing a focused plan; district personnel must then implement their plan and demonstrate that they have monitored their improvement process. These Tier 1 districts receive support through 16 State Support Teams (SSTs) that are located in distinct regions throughout the state. Each SST uses the single school improvement plan and process developed by Ohio in their work with the districts.

Ohio has narrowed the scope and prioritized the SST work. Previously, the professional development offered by the SSTs lacked a coherent focus and varied from region to region. Each SST is responsible for implementing a tiered-service delivery model identified in the goals and strategies articulated in the Performance Agreement between the ODE and each SST regional fiscal agent. Among many responsibilities, the SSTs must focus on developing the capacity of Tier 1 district leaders to develop and implement plans for effective school improvement systems around the themes of leadership, curriculum, instruction, assessment, and school climate.

2. **Defined evidence-based programs/interventions for all students and subgroups**

2.1 Helping schools and districts better serve students with disabilities

For this indicator, the cells range from no formal state plan for assisting districts/schools whose students with disabilities fail to meet achievement targets to a fully implemented plan for assisting these districts/schools whose students with disabilities do not meet achievement targets.

Through its state Personnel Development Grant, Ohio is providing an opportunity to test the integration of its special education and general education improvement models. Ohio leaders believed that the best way to make academic gains for all students is to ensure a high quality educational system in which

all students participate. Therefore, the SEA integrated its two existing support systems into unified State Support Teams (SSTs). A priority goal of these SSTs was to ensure that special education students would have access to teachers who understood the academic content standards and curriculum implications as well as regular classroom teachers. Ohio combined federal Title VI-B special education discretionary funds with state general revenue funds to provide a single system of support to address the needs of all students.

2.2 Coordination of services for students with disabilities across SEA departments and programs to maximize service and reduce duplication

For this indicator, the cells range from no state plan for integrating its district/school assistance policies to the state having fully implemented a plan for integrating its district assistance policies, regardless of funding sources, to better serve students with disabilities.

Ohio worked with federal officials to obtain maximum flexibility in using federal funds as a support system for all students. Ohio modeled how cooperation between special education and school improvement staff can be accomplished so that funds and requirements can be integrated. This has caused school personnel to think about how they can most effectively combine funds for improvement as well. This particular approach originally concerned parent advocates who were worried that special education services might be lost. The SEA has maintained that a student-centered approach, rather than a programmatic or funding-centered approach, will be the best for children.

The Ohio SEA saw the need to bring all its departments together instead of operating in silos. The goal was to blend special education and regular education services together in a unified effort to say "kids are kids," and the SEA is going to make sure they are all served. One outcome of this process is a single point of contact at each SST who is the focus of one-stop-shopping for local personnel about school improvement issues.

In Delaware, "Special education staff is core to our SSOS. Schools under improvement have first priority for services provided through SSOS. We include in this prioritization all of the special education indicators. Our application, evaluation, and monitoring systems are in the process of being revamped so that they provide the infrastructure to support the SSOS. We have also revised the District and School Improvement School Success Plans. They articulate the completed strategic plan for the agency—one plan that encompasses all students."

In Maryland, "the strength of this system is the inclusion and coordination of cross-divisional and external agency support and expertise, including special education. The first step in the process is the review and triangulation of various needs assessments to identify pervasive as well as isolated needs…The system works to build foundational strength in core areas of needs and provide enrichment support in more focused areas, such as special education. Special education staff will have a critical role to play in both areas (foundational and enrichment) and are inextricably linked in structure and delivery to this system."

2.3 Helping schools and districts better serve English language learners

The range in the cells for this indicator is from no existing formal plan to assist districts/schools whose English language learners fail to meet achievement targets to full implementation of a plan for assisting districts/schools whose ELL pupils fail to meet achievement targets.

The Pennsylvania Department of Education encourages schools to share successful practices through presentations at state and local workshops. For example, teams from 27 schools gathered for a morning session to hear presentations from two schools on how they raised achievement for ELLs over a four-year period. In the afternoon, members of the presenting schools worked alongside the other 27 teams to practice using diagnostic screening tools and rethinking intervention strategies. Afterward, the Pennsylvania SEA posted a summary of the strategies presented on their website.

2.4 Coordination of services for English language learners across SEA departments and programs to maximize service and reduce duplication

The range in these cells is from no formal state plan for integrating district/school assistance policies and programs to better serve ELL pupils to the full implementation of such a plan.

In Georgia, Idaho, Iowa, Kansas, and North Carolina, the ELL personnel work closely with school improvement staff to provide regional services and to ensure that improvement teams are knowledgeable about best practices in this area.

In New Mexico, the ELL personnel are linked in two ways. The first is through participation on a cross-functional professional development work group. The work group is focused on coordinating both the needs and the provision of professional development for schools and districts. The second way is through close collaboration with the Assessment and Accountability staff and linking the federal Annual Measurable Achievement Objectives with the progress of schools on the AYP.

In Washington, the Migrant/Bilingual Education staff work closely with other units to guide districts whose ELLs are not making AYP. The SEA provides districts with technical assistance in evaluating their current ELL service delivery plans, using data to make adjustments to their plans, and in identifying necessary professional development. This technical assistance is often the result of collaboration among the different units at the state level including Title I, special education, assessment, and school improvement staff. ELL personnel participate in the efforts of the SSOS to update school improvement rubrics for districts to ensure that the needs of culturally and linguistically diverse learners are addressed.

In Rhode Island, District Corrective Action Plans and District Negotiated Agreements contain plans that delineate SEA services including ELL for the designated district. Each district is provided a Joint Capacity Team, which includes members representing general education, special education, and ELL staff from both the SEA and LEA levels.

2.5 Reduced achievement gaps

The cells in this indicator range from the state's not using their achievement gap data to the state assisting districts and schools to implement strategies to reduce achievement gaps.

Kentucky has a statewide network of local District Assessment Coordinators as well as a separate group of District Achievement Gap Coordinators (DAGCs)—five highly effective educators assigned to work in selected regions of the state to eliminate achievement gaps. The DAGCs collaboratively develop individual work plans for each assigned district based on the results of the district's Scholastic Audit. In addition, these DAGCs serve as members of five-person teams that assist districts identified as needing serious assistance and who request Voluntary Partnership Assistance Teams. Receiving help from these teams is one of the three options the state has made available to districts that have failed to meet adequate year progress for four years.

The Office of Achievement Gap Elimination (AGE) was established by the Tennessee legislature in 2007. AGE consists of an urban specialist and several consultants, all employed by SEA. AGE consultants provide assistance to Tennessee's High Priority School Improvement schools. The focus of this office is to close achievement gaps for the following subgroups:

- Students with disabilities
- Economically disadvantaged
- Limited English proficient
- African American males
- Other subgroups as appropriate

In addition, AGE consultants are assigned to Title I schools in their first year of improvement to provide them with direct technical assistance on the development and implementation of their improvement plans. To begin this process, AGE consultants partner with trained distinguished educators to conduct thorough audits of the schools using the practitioner guide: *What is a Good School?* From the results of these audits, the AGE consultants guide the schools through the development of their Title I school improvement plans, including the targeting

of resources available through the Title I school improvement grant funds.

3. Plan for evaluation

3.1 Documentation of school/district activities

The possibilities in this indicator range from there being no written plan to document SSOS work with districts and schools to the level where the SEA has a fully operational system for documenting SSOS work.

The Ohio SEA has an Office of Field Relations that collaborates with other offices within the SEA and various regional providers to coordinate a Statewide System of School Improvement Support. Using the Tri-Tier Model, Ohio provides aligned resources, information, tools, professional development, and technical assistance to all districts with the greatest intensity to those districts in Tier 1.

By contract, each of the State Support Teams (SSTs) is responsible for implementing a tiered-service delivery model identified in the goals and strategies articulated in the Performance Agreement between the Ohio SEA and the fiscal agents that manage the SSTs. This model outlines how all districts are serviced through a differentiated technical assistance structure with the highest need districts receiving the greatest intensity of service. All of the contacts these teams make with districts must be documented.

Stage 1 of the Ohio Improvement Process begins with a comprehensive assessment of student data and identifies academic weaknesses that must be addressed using the Decision Framework tool. This decision-making process is designed to assist districts using a state-developed data warehouse in making informed decisions about where to spend their time, energy, and resources in order to make significant and substantial improvements in student performance. The SSTs work with these districts though all four stages of the Ohio Improvement Process, including the last one in which everyone monitors and documents the impact of the implemented improvements. In fact, Ohio State Support Teams (SSTs) perform quarterly Partnership Agreement reviews with all Tier 1 districts to document evidence of implementation and impact and to revise strategies as needed based upon data. An annual summary of technical assistance provided to each Tier 1 district and the impact of those services on the district is provided by each SST in June. This summary captures the district's efforts and changes in practices and helps guide ongoing work while documenting history and progress. These results are reviewed at the regional and state levels.

3.2 Documentation of district/school perceptions

The performance levels in this indicator range from no written plan for collecting data on districts' and schools' perception of SSOS services to the state using the perception data to improve its SSOS.

Alabama evaluates their SSOS based on the perceptions of local personnel about the effectiveness of the collaborate efforts of the state support teams. In particular, it evaluates peer mentors and Regional School Improvement Coaches (RSIC) at mid-year and at year end. This appraisal presents task statements, such as whether the RSIC personnel are providing effective on-site support, coaching, and guidance to local personnel. Evidence is requested to support ratings. Finally, there are "listening post" opportunities offered to all superintendents for voicing concerns as well as positive comments at regional meetings with the Deputy Superintendent and key staff.

The Ohio SEA collects customer satisfaction data. Techniques include surveys, interviews, and portfolios for individual districts that include a history of what services the State Support Teams (SSTs) provide.

In addition to the independent evaluations, the state of Washington works with the Center for Educational Effectiveness which has annually provided a perception survey, entitled the Educational Effectiveness Survey.

3.3 State system to evaluate the SSOS

The cells in this indicator range from the SEA having no written plan to evaluate the effectiveness of the SSOS to evidence that the SEA has used results of evaluations to improve its SSOS.

Washington evaluates their School Improvement Assistance Program by examining the fidelity and sustainability of the program at the state, district,

school, and classroom level. In addition to desktop reviews, site visits and interviews, reviews of achievement data and performance trends, anonymous surveys are completed by building staff, administrators, district leadership, parents, and the school improvement facilitator.

Edvantia evaluated Tennessee's Exemplary Educator (EE) program based on document reviews, surveys, and achievement data. As part of the evaluation, Tennessee established a system in which each EE completes an end-of-year status report for each school or district assisted. Edvantia staff examined and evaluated these status reports to determine progress in meeting performance expectations and to identify the broadest areas of need of the high priority schools and districts as well as the actions of the EEs. At the same time, the EEs evaluated the tools and training provided to them.

Another part of the evaluation is the Exemplary Educators Performance Evaluation System. This system is designed to encourage some degree of specialization among EEs, to reward EEs for developing and applying their individual skills, and to ensure satisfactory completion of administrative duties.

Part B: Resources

4. Staff

4.1 Enhancing the supply of teachers and administrators skilled in school improvement

For this indicator, the possibilities range from the state not having any formal strategies to enhance the supply of teachers and administrators skilled in school improvement to the state having evidence that it has increased the supply of educators skilled in school improvement.

Kentucky has an agreement with the University of Kentucky to provide leadership certification for its Highly Skilled Educators (HSEs) through the completion of three courses. This program was designed to select and reward the most outstanding teachers and administrators with recognition for excellence and provide a salary incentive and an opportunity to assist other teachers, administrators, and schools. Schools whose scores declined have been assigned an HSE. A key element of this program is that the HSEs remain employees of their home district and after their tenure as a HSE, they return to their district and become a resource to build internal district capacity. Of the 105 HSEs who entered the program as teachers, 81 accepted leadership positions beyond that of classroom teacher after exiting the program.

In addition, the Kentucky State Department joined with the Kentucky Association of School Administrators to start the Kentucky Leadership Academy to provide an opportunity for Kentucky educational leaders, at all levels of leadership skill and development, to receive the necessary support to assist them in positively impacting whole school improvement and advancing student learning though ongoing professional growth opportunities. The core values of the Leadership Academy include: effective leaders have high expectations for themselves, their staff, and students; these high expectations are evidenced in the work of the district/school and in student achievement; and that highly effective leaders recognize and communicate the district's/school's deficiencies and collaboratively work for improvement with the learning community.

Ohio developed eLearning modules to standardize professional development. These modules are designed to strengthen instructional strategies and are focused toward schools that demonstrate the greatest need. The goal is to link professional development to data and then offer customized professional development opportunities via these modules. Ohio believes that eLearning is an effective way to disseminate consistently high-quality professional development content statewide.

4.2 Incentives for addressing a more equitable distribution of highly qualified teachers within and across districts

The possibilities extend from the SEA having no plan to address the quality of teachers in schools identified as needing improvement to the state having systematically implemented its plan to achieve more equitable distribution of highly qualified elementary and high school teachers within and across districts.

The Ohio Department of Education developed a Teacher Distribution File (TDF) in response to its own research which showed that often the children in the low-performing schools who need the most experienced, most educated, and most skilled teachers instead had the least effective educators. School districts use the TDF to conduct an analysis to determine where their teacher inequities exist. The TDF can:

- Identify the percentage of minority and economically disadvantaged students who are taught core subjects by inexperienced (less than three years' experience) teachers vs. experienced teachers;
- Identify by core subject area and by school where more that 10 percent of the core subject courses in schools are taught by teachers who are not highly qualified;
- Identify the percentage of inexperienced vs. experienced teachers in high-poverty schools vs. low-poverty schools; and
- Identify the percentage of highly qualified vs. not highly qualified teaches in high-poverty schools vs. low poverty schools.

After conducting these analyses, Ohio school district personnel write their District Teacher Equity plans. As part of its statewide equity plan, Ohio is developing a system in which it will continuously monitor and improve the distribution patterns of Ohio's teachers to ensure that poor and minority students are not being taught at higher rates than other students by inexperienced, unqualified, or out-of-field teachers.

4.3 Highly effective teacher recruitment and retention

Along the continuum of possibilities for this indicator, the state may have no plan to enhance recruitment and retention of highly effective teachers or it has a fully implemented plan to enhance recruitment, and there is some evidence that recruitment and retention have improved.

Ohio has the Council Attracting Prospective Educators (CAPE) to identify and attract young, talented people from diverse backgrounds to a career in teaching with the goal of increasing minority representation in teaching. The CAPE Teacher Academy is a five-day summer academy experience designed to introduce Ohio high school students to teaching as a career possibility. The academy provides an opportunity for 50 high school students from diverse backgrounds to experience a university environment, develop leadership skills, explore a career in education, and interact with peers and professional role models.

In addition, there is the Ohio Future Educators Association (OFEA), a statewide organization for middle and high school youth who are interested in a career in education. Along with Phi Delta Kappa (PDK), OFEA works with advisors and officers of local PDK chapters to recruit members, plan projects, share program information, and provide a statewide communication network to motivate students who are interested in a career in education. OFEA encourages students to set educational career goals early in life, focus on academic achievement, explore teaching through direct experience in the classrooms, and become citizen leaders through school/community service.

However, the major Ohio program for this indicator is its Career Lattice Framework. This Framework expands teacher leadership opportunities and drives collaboration between teachers and administrators on school design, leadership, and school policy. The goal of the Framework is to create a more common culture of teacher professionalism, to improve teacher retention, and ultimately enhance student achievement. It also provides a framework for teachers to create and sustain a community of professional practice where they have opportunities to collectively reflect upon their teaching, consider the progress their students are making, learn about and apply new knowledge in their fields, and help each other improve.

4.4 Highly effective administrator recruitment and retention

For this indicator, the state may have no plan to enhance recruitment and retention of highly effective administrators, or it may have a fully implemented plan to enhance recruitment with some

evidence that recruitment and retention have improved.

Through the Pennsylvania Inspired Leadership Program (PIL), Pennsylvania has made a large effort to train every principal in the state, believing that PIL will make the principals of all schools more effective, not just those leading schools in need of improvement. Every novice principal is required to take a principal induction program within the first five years of service. The induction program must address the three core standards:

- The leader has the knowledge and skills to think and plan strategically, creating an organizational vision around personalized student success.
- The leader has an understanding of standards-based systems theory and design and the ability to transfer that knowledge to the leader's job as the architect of standards-based reform in the school.
- The leader has the ability to access and use appropriate data to inform decision-making at all levels of the system.

The state offers this induction program, developed in partnership with the National Institute for School Leadership, free of charge. This training models the behaviors it wants leaders to foster in schools and districts. Participants discuss concrete problems of practice in their jobs, and are supported by coaching and expert modeling in applying the content towards solutions in their daily work. The Pennsylvania Department's goal was to create comprehensive standards-based continuing professional education programs designed around what the research tells them is good professional development. Participants complete evaluations after each PIL training. A local university analyzes these evaluations and uses them to produce an annual summative report.

5. Funding

5.1 Coordination among state and federal programs

A state's SSOS may range from having no plan to efficiently coordinate programs with different funding sources that are aimed at improving schools to fully implementing a program to integrate planning and documenting evidence of greater efficiency in planning resource allocation and compliance monitoring.

One of Ohio's main strategies was to integrate a variety of state and federal programs for seamless and efficient delivery of services. The Ohio Comprehensive Continuous Improvement Plan moved districts from multiple program requirements for improvement planning and compliance into one planning tool where resources are aligned with needs and plans of actions. Prior to the CCIP, schools were required to create separate and often merely pro forma plans for each of their state and federal programs. The CCIP integrated the many plans into a single document aligned with fiscal resources that serve as a guide to districts and schools in their improvement efforts.

When asked, "What are some lessons learned from your state's experience with a statewide system of support that would be helpful to other states?" Ohio staff responded that their mind-set is that they are now using a student-centered rather than a program centered approach. Ohio Department personnel have worked with federal officials to obtain maximum flexibility in using federal funds. They began to model internally how cooperation among departments can be accomplished so that funds and requirements can be integrated. Among the first goals was to integrate special education with school improvement activities. Their philosophy was that by improving the whole system, they improved the learning of special education students.

Ohio education leaders believed that the best way to make academic gains for all students was to ensure a high quality educational system in which all students participated. Therefore, they integrated the two separate existing support teams into one State Support Team (SST) system. A goal of the newly formed SST was to ensure that special education students would have the same access to teachers who understood the academic content standards and curriculum implications as regular classroom teachers. Ohio combined federal Title VI-B special education

discretionary funds with state general revenue funds to provide a single system of support that addressed the needs of all students.

While Response to Intervention (RtI) is a federal special education initiative, Pennsylvania is defining it as an instructional program beneficial to all students. All students, including students with disabilities, are to be given high-quality instruction against the same standards, and all students are administered the same progress monitoring and benchmark assessments. As a result, RtI in Pennsylvania is considered fundamentally about school improvement.

5.2 State assistance to districts or schools in assessing their use of financial resources to fund improvement efforts

The performance levels for this indicator range from no clearly defined process in place to help districts analyze their budgets to aligning financial resources with identified needs to the state showing that its budget staff systematically is part of the monitoring process to help local staff with these fiscal problems.

Ohio now has school finance staff join school improvement personnel in their State Diagnostic Team on-site review process. The philosophy is that everyone needs to know how the money is being spent. Each team reviews low-performing schools to ensure that their budgets are aligned with identified needs. As a team they work together to ascertain how schools can become more effective with their programs and more efficient with their financial resources. When these school improvement teams develop a list of recommendations, the finance representatives can immediately help the districts identify which funds are available to implement the recommendations, and they can also point out which recommendations are too costly to start immediately.

6. Data analysis and storage

6.1 Strong state data system

The performance levels for this indicator range from the state simply using results from the assessment system to make decisions about the implementation of its SSOS to having a process in place for using state assessment results to provide differentiated services and as a tool in the development of further resources.

Pennsylvania has established a permanent statewide student identifier for its 1.8 million Pre-K through high school students. In addition, all teachers and certified staff were assigned Professional Personnel Identifiers. By fall 2008, the SEA had integrated data from seven of its eight former standalone databases so it now collects data on 72 unique elements, including extensive student and staff information, course enrollment, and attendance. The state department can now determine the proportions of highly qualified teachers from one district to another. Overall, the Pennsylvania Department of Education now possesses the ability to answer a host of questions that before were left to guesswork. Finally, the state continues to build a longitudinal database to ascertain whether its investment in numerous programs is working.

6.2 SSOS use of assessment data

For this indicator, the state's data system may merely meet minimum ESEA requirements or there may be evidence that there is reduced redundancy in data collection and that local personnel use the state's data system to inform decisions that positively impact instruction.

School Support Teams in Ohio devote a considerable amount of time helping district staff understand data and how to use it for improvement planning. Local personnel can now access item analysis data by classroom. The Ohio Department of Education staff believes that improvement is not random. Rather improvement is highly focused, begins with an honest assessment of student data, and identifies academic weaknesses that must be addressed. Stage 1 of the Ohio Improvement Process begins with this kind of assessment using the Ohio Decision Framework tool. This Framework is a decision-making process designed to assist districts in making informed decisions about where to spend their time, energy, and resources to make significant and substantial improvements in student performance. A state-developed data warehouse allows relevant data, needed to complete the Decision Framework process, to be readily available to

districts and buildings. These data are organized in such a way as to allow district and school leadership teams to answer essential questions and make decisions about their greatest needs related to improving student performance.

Using the Decision Framework, district staff goes through a process of looking at data from four levels. Each level has data resources and essential guiding questions to assist the district in identifying, analyzing, planning, and evaluating the critical components for improving the performance of all students. The data are examined in relation to student performance in content areas, identifying the weakest grade levels, subgroups with poor performance, and the extent to which the problems are present throughout the district. Once the student performance needs are identified, the district then looks at the performance in relation to instructional management (curriculum, instruction, and assessment), professional development, and educator quality.

7. Distinguished educators, consultants, experts, etc.

7.1 Matching schools/districts with distinguished educators, support teams

The performance levels for this indicator range from the state not having a systematic procedure in place to match schools and districts with consultants based upon qualifications and identified needs to the state using data to evaluate the distinguished educators and others as well as the state having evidence that these experts have had a positive impact.

Alabama has a system of peer mentors and regional school improvement coaches (RSIC). Peer mentors serve schools in year four or more of school improvement status. The RSICs work with districts on a regional basis. Members of the Alabama Roundtable (see response to Indicator 1.1) annually select these change agents. Many of them are already employees of the districts in school improvement status. They are selected for special year-long training, so they can immediately begin helping their own districts and others in need of support. For the time they have this special status, they work for the Alabama Department of Education, and their salaries are reimbursed by the state department. After their time in this role has finished, most go back to full-time status with their own districts. In this way, the capacity of the district has been enhanced.

These Alabama peer mentors work full time and are assigned to no more than two schools. However, the goal is clear that the state expects these mentors to also build capacity at the district level so central office staff can write better plans for improvement. "Change at the school level requires continuous district support."

7.2 Training for distinguished educators and support teams

The performance levels for this indicator range from no documented plan for training distinguished educators/support teams to the existence of a comprehensive training program that addresses identified needs along the way and is formatively revised.

In Tennessee, the key providers of technical assistance to schools and districts are the exemplary educators (EEs). In high-priority schools and districts, these EEs work four days every week providing support in school improvement planning, use of data, curriculum, and effective instructional and organizational practices. Tennessee contracts with an external firm to hire the EEs and provide their training. The EEs are trained during the summer and for five weeks throughout the year to keep them current. The consultants are assigned based on the identified needs of schools or districts and the expertise of the EE. The training enables the EEs to provide differentiated services. EEs are able to use the combination of tests scores and the profile obtained from the completion of the Tennessee Comprehensive Systemwide Planning Guide as the foundation for their analysis and planning. Once a school is placed on high priority status, it receives the services of a trained EE until it leaves the list.

8. External Providers

8.1 Organizational partners in the statewide system of support

The performance levels for this indicator range from having no evidence that the state has formed partnerships with other organizations to further the

goals of the SSOS to evidence that external partnerships have been actively implemented and resulted in increased resources and services for school and district improvement.

State Support Team members in Ohio involve various partners in the review of data and identification of needs. These partners may include, but are not limited to: institutions of higher education, Ohio Education Service Centers, and Information Technology Centers. Partners provide services based upon their existing relationships or content/process knowledge expertise.

In Oklahoma, university staff participates on the School Support Teams that make site visits, observe classrooms, provide feedback to teachers and administrators, and interview parents, student, teachers, and administrators. They also provide feedback to School Support Team Leaders for reports to building administrators based on the Oklahoma Nine Essential Elements framework.

In Pennsylvania, university personnel are part of the content expert teams, and in North Carolina, they deliver professional development to turnaround administrators. In Missouri, they provide research capabilities and statistical data analyses for their student achievement data and demographic information.

Kentucky identified its state's education associations as critical in the evolution of its system. Kentucky works with over 60 agencies to support school improvement. One example is the Partnership for Successful Schools. This Partnership is a coalition of Kentucky businesses, educational groups, and government officials who believe that business has both a stake and role to play in helping children learn. The Kentucky Department of Education is a leading member of the Educational Leadership Development Collaborative, a unique association of educational organizations in Kentucky working together to improve student learning through leadership. The group's mission is "to advance student learning through a collaborative focus on leadership development."

8.2 Supplemental Education Services (SES) monitoring and evaluation

The performance levels range from having no clearly defined procedure to approve, monitor, and evaluate SES providers to having systematic, full, and coordinated processes for approving, monitoring, and evaluating providers regularly and formally.

The Kentucky Department of Education has developed and disseminated a handbook that describes, in detail, information about SES. In addition, there is a statewide media campaign to share information about eligibility and services available through the SES. The State Department of Education has collected baseline information about providers and is working with an outside evaluator to complete a comprehensive evaluation.

Part C: Implementation

9.0 Removal of barriers to change and innovation

9.1 State opportunities for change

The performance levels for this indicator range from the state having no process or efforts underway to identify and remove barriers to change to evidence that the districts and schools have availed themselves of increased opportunities.

Washington State has a process for districts to request waivers from specific state requirements. For example, a district may apply for less than the full instructional year of 180 days after the community approves. The days are often used for professional development. Districts may request waivers from provisions in teacher contracts if a school improvement plan calls for that.

Tennessee has established a systematic review process to determine what state policies and other barriers hinder improvement efforts in districts and schools. Since 2004, the State Department has had a Project Management Oversight Committee that provides the necessary coordination to conduct these reviews. Tennessee also provides for alternative certification routes.

Under the Mandate Waiver Program, Pennsylvania law allows public school districts, along with vocational-technical schools, Intermediate Units, and groups of schools to seek exemption from certain

provisions of the Public School Code. Though regulations surrounding teacher contracts or the certification requirements for principals and teachers cannot be waived, applicants can seek waivers on other matters if they can demonstrate one of two things: 1) that a waiver would improve instructional programs, or 2) that a waiver would result in more efficient, effective, or economical operations. Since the program began, Pennsylvania has granted over 700 waivers.

Ohio has a waiver process, and the most frequently requested waiver is for fewer days of instruction so local personnel may have additional professional development.

9.2 Creating options for new types of schools, including charter schools

The performance levels range from the state not having taken actions to create options for new types of schools to evidence that there are a variety of new types of schools in the state.

In 1997, Pennsylvania state law authorized the creation of charter schools. In 2002, a law passed allowing cyber charter schools, of which there are now 11 in the state. The Pennsylvania Department of Education is the authorizer for all cyber charter schools but local school boards must authorize brick and mortar charter schools. There is no cap on the number of charter schools that may be authorized in Pennsylvania.

There are 324 charter schools in Ohio. Charter schools are authorized to open in areas where schools are continually underperforming. However, if a charter school is classified as being in a state of "academic emergency" for three years, the charter has to close.

In Tennessee, there are 12 charter schools, and they can only enroll students from low performing schools. There is legislation allowing conversion of an existing school to charter status.

10. Incentives for change

10.1 State consequences for poor performance

The performance levels for this indicator range from the state using only the sanctions for low performance required by ESEA to evidence that consequences for low performance over and above those required by ESEA have been levied by the state.

Alabama's system of academic standards, assessments, and accountability is a single system that applies to all LEAs and all schools irrespective of their receipt of Title I funds. All LEAs and schools are subject to the state's definition of AYP for achievement of all students and each subgroup. Alabama's system of sanctions for schools identified for improvement adheres to the following principles:

- Sanctions should result in increased learning opportunities for students.
- The state's primary response to schools that are not making academic progress should be intensive support to the instructional programs.
- Sanctions should establish a priority for state support to LEAs as they provide appropriate levels of school improvement guidance beginning in the first year of failure to make AYP.
- The magnitude of sanctions should reflect the magnitude of the need for academic improvement.

Districts in Alabama with schools that have been on the list for needing improvement for four or more years must hire a school improvement specialist at the district level.

Ohio places a public spotlight on districts that show continued low performance in its federal and state blended accountability system. Ohio has five designations as well as a federally required special education IDEA annual determination based on a district's ability to implement IDEA. There is an additional value-added indicator on school report cards.

10.2 State incentives for improvement

The performance levels for this indicator range from no incentives provided for districts or schools for improved academic achievement to evidence that positive incentives provided by the state promoted an increased number of school/district programs and conditions for raising student achievement.

Alabama employs one or both of the following criteria to identify schools and LEAs for academic recognition and/or rewards:

- The school or LEA "significantly" closed the achievement gap between subgroups of students and made progress toward AYP. "Significantly" will be defined based on year-to-year analyses of test scores and with input from the state's Accountability Advisory Committee.
- The school or LEA made AYP for two or more consecutive years.

Principals and teachers in Alabama who are highly effective and have been instrumental in closing the achievement gap and/or making AYP will be identified to serve as peer consultants on State Support Teams.

A major incentive in Alabama is the selection of Torchbearer schools, recognizing high performance among Alabama's high poverty schools.

In Ohio, there is public recognition for schools that show improved results, especially "Schools of Promise" that have high achievement and high poverty and "Schools of Distinction" that have high achievement and a high percentage of special education students.

In Ohio, legislation provides teachers a $20,000 signing bonus or loan forgiveness in return for a commitment to teach in a hard-to-staff school for at least five years. Ohio also has special assistance available to districts with high concentrations of poverty. One portion of this funding is provided to districts where the percentage of schools in academic distress is higher than the state average. A district can receive a 3.5% increase in funds if they reduce that percentage.

10.3 Public disclosure of district and school performance

The performance levels for this indicator range from the state disclosing school and district performance data only as required under ESEA to evidence that the reports and website are used and are helpful to users. Refinements are made based on user feedback.

In Washington State, the school report card, accessible through the SDE website, gives disaggregated state assessment results by subgroup and content area. The state's data carousel process has been instrumental in school and district improvement planning. For example, when staff at one of the schools wanted to see what schools with similar student populations were doing to help their students succeed, they were able to use the data filters on the website to identify schools that they later visited.

In Tennessee, education personnel interviewed indicated that the state provides a wealth of data at their website that districts and schools can use to develop their improvement plans, including value-added data. One of the principals describe the value-added data as a "wonderful, wonderful tool from the state…they're online, they're accessible. The value-added really helps me as a principal to look at individual teacher growth."

11. Communications

11.1 Clear and systematic communication paths exist within the statewide system of support

The performance levels for this indicator range from no documented plan for a statewide communication system among those who provide support such as state education department employees, regional offices, universities, and other elements of the SSOS to evidence that the communications are being used to improve services and support. The state formatively evaluates the quality and accuracy of the communication to the field and service providers.

Alabama's Accountability Roundtable's mission is to provide a coordinated, seamless system of continual technical assistance and support to schools in the areas of curriculum, instruction, fiscal responsibility, management, and leadership. Technical assistance to schools is coordinated through this Accountability Roundtable and provided by the State Support Team. The Accountability Roundtable meets regularly with representatives from all departments. Table Talk is a bimonthly newsletter disseminated by the Roundtable to members of the State Department of Education.

In Washington State, there are nine regional Educational Service Districts (ESDs) across the

state. They are funded through state, local district funds, and grants. The ESDs provide representation at each of the monthly meetings of the school improvement facilitators.

In Tennessee, the nine Field Service Centers assist schools and systems in school improvement planning and other functions. The Director of the Field Service Centers is based at the State Department of Education and reports to an Assistant Commissioner. This enhances the communications with the field.

Kentucky has a Bureau Leadership Planning Team composed of the commissioner, the deputy, and all associates. They meet at least monthly to discuss, review, and evaluate the statewide system of support. Additionally, two key associate commissioners share the responsibility for day-to-day activities around statewide support. The SEA relies heavily on its approach of cross-agency decision making, maximizing limited resources, and shared ownership of initiatives and responsibilities. The State Department of Education is a leading member of the Educational Leadership Development Collaborative, a unique association of educational organizations in Kentucky working together to improve student learning through leadership. The group's mission is "to advance student learning through a collaborative focus on leadership development." This group meets monthly to discuss current issues in education and address programs and strategies being used by their respective organizations to improve student learning.

11.2 Clear and systematic communication paths exist between the state/SSOS and districts/schools

The performance levels for this indicator range from having no documented procedures for communications between the state/SSOS and districts/schools to evidence that the communications are being used to improve services and support. The state formatively evaluates the quality and accuracy of its communication to the field and service providers.

Louisiana has brought local superintendents and local school boards to the forefront of accountability by including them in discussions related to interventions in specific schools. "The movement toward more state intervention would be more difficult if the LDE did not involve the local superintendent and their boards in preparation of possible interventions and sanctions."

In Washington State, local school personnel interviewed noted that a key resource for the schools and districts is the State Department of Education website, which they consult for data, professional development materials, grade level expectations, information on the Nine Characteristics of Effective Schools, and the School Improvement Resource Guide.

12. Technical assistance

12.1 Delivering training to districts and schools in school improvement planning

The performance levels for this indicator range from the state not having a formal, documented process for training districts and schools in school improvement planning to having a plan fully implemented, the quality of services regularly evaluated, and evidence that delivered services have a positive impact on school improvement planning and implementation.

In the State of Washington, the School Improvement Planning Process Training Guide is written as a planning document that leads the principal and school community through a cycle of continuous improvement. The guide provides a variety of processes, resources, and graphic tools to engage all stakeholders to develop deeper, sustainable change in each school.

The Tennessee Comprehensive System-wide Planning Process (TCSPP) provides the infrastructure for sharing and coordinating resources. All 136 districts submit their plans to be approved by a cadre of SDE staff. In each plan, local personnel develop priorities for improving schools using a template and share the process by which they arrived at their priorities.

Kentucky created a Comprehensive Improvement Planning system that streamlined district funding requests. While the system addresses compliance requirements, the planning document is more about strategies that the district will use to address its documented needs. Kentucky provides annual

performance reports to help guide the district and school planning process. The Kentucky website provides multiple tools such as sample plans, the role of a school council, etc. Kentucky's District Improvement Planning Roles and Responsibilities training document begins by noting that the process is designed to include stakeholders (such as parents, staff, and administrators) in creating a plan that promotes and supports school improvement efforts. Critical steps for improvement planning are outlined in the document.

12.2 Building parent involvement into school improvement

The range for this indicator is from the state having no written plan to provide training on how to include parents in the school improvement process to the state having evidence that the districts/schools have implemented the strategies promoted in training and that the state refines the plan based on systematic evaluation of the effects of the training.

Iowa uses several approaches to help all districts use current research to meaningfully engage parents in their children's learning. The Iowa Parent Information Resource Center (PIRC) now works with the Iowa district accreditation teams since many previous state accreditation visits documented a lack of parent involvement in many districts. Both the accreditation teams and the districts scheduled for accreditation receive information about the Toolkit for Educators developed by the PIRC as do the accreditation teams. Districts may use the Toolkit (www.Iowaparents.org) to help them institute parental involvement activities prior to the team visits.

In addition, the PIRC works directly with the Iowa State System of Support personnel to focus on those schools and districts that do not meet AYP. The PIRC has support teams for these schools to help them build meaningful parent engagement plans. For example, a school team composed of the principal, teachers, and parents are trained on how to take current research on parent involvement and turn it into action to help students who are deficient in reading and/or math.

The teams are helped along the process by moving through the six major components of this Toolkit.

- Planning to Plan – tools to create an effect team for family engagement;
- Needs Assessment – tools to learn more about current practices in the building/district. Through the Toolkit surveys, these teams ascertain the present status of parent involvement and decide what it should become over the school year;
- Expectations and Research-Based Practices – tools to address actions that are research based;
- Planning – tools to document the goals, activities, and program evaluation for family engagement;
- Sustainability – talking points for communicating with parents and the community; and
- Program Evaluation – basic tools to review the impact.

The Iowa State Department recently reported major gains in the number of meaningful parent involvement activities in Iowa schools and districts.

A principal interviewed in Kentucky noted that parental involvement and special education were two areas in which the administrators received especially beneficial assistance. They noted that the state has helped them quite a bit with parental involvement. "In the development of their district improvement plan, they were very picky about our parent involvement activity, and they have provided us support to structure communication with parents about holding high expectations for all students."

Kentucky's *District Improvement Planning Roles and Responsibilities* document begins by noting that the process is designed to include all stakeholders (parents, staff, and administrators) in creating a plan that promotes and supports school improvement efforts.

13. Dissemination of knowledge

13.1 State dissemination of knowledge and/or research based practices

The range of possibilities for this indicator is from not having a process at the state level for making

products available to help districts and schools with school improvement to evidence that the districts and schools use the knowledge disseminated by the state in their efforts to improve student achievement.

In Alabama, several newsletters are disseminated on school improvement. Regional in-service centers based in universities publish newsletters. Regional school improvement coaches develop and disseminate newsletters to districts within their regions, providing notification of current training opportunities and plans for future training. Professional development is a key area of state support, delivered via intermediate centers, peer mentors, online training, and state conferences. The local administrators describe the professional development as being ongoing, of high quality, and tailored to their specific needs.

The Washington SEA developed a statewide math and science instructional coaching program, including a coach development institute, coaching seminars, and coaching activities within schools. Evaluation findings showed that the role, support, and responsiveness of the SEA have consistently received high marks; 90% of staff indicated that professional development provided by the state resulted in changes in their classroom instruction. In addition, Washington produces resource guides to assist the external facilitators and local staff. The *Nine Characteristics of High Performing Schools* (June 2007 Second Edition) is a research-based framework for school improvement in Washington. Each of the studies that serve as the basis for this guide was analyzed to determine which characteristics were found most often among high-performing schools.

Kentucky's plans for the statewide longitudinal data system includes a Knowledge Management Portal that will provide a wealth of targeted instructional resources, including standards-based units of study, lesson plans, curriculum maps, assessments, and other educational resources. The portal will offer collaborative workspace that teachers can use to share best practices, develop test items, and expand their professional skills.

13.2 State-specific products to help identified districts and schools

The range of possibilities for this indicator is from the state having products to help districts and schools with school improvement to having evidence that the districts and schools are using the available products and find them to be beneficial. To receive the highest rating, the state must also evaluate and subsequently modify those products. The evaluation also guides the state in its search for additional relevant resources.

In the State of Washington, a key resource for schools and districts is the State Department of Education website where they provide data, professional development materials, grade-level expectations, information from the *Nine Characteristics of Effective Schools*, and the *School System Improvement Resource Guide*, which provides a systematic framework for those embarking upon school and district improvement. Educators interviewed singled out curriculum, increasing parental involvement, and assistance in serving ELLs as areas in which the state has provided especially helpful materials and training.

14. Monitoring and program audits

14.1 State program audits

For this indicator, the range of possibilities is from the state having no system in place to conduct program audits in schools and districts identified for ESEA sanctions to evidence that recommendations from audits have been implemented by schools and districts and have had a positive impact on school improvement processes.

Tennessee has relied on its February 2007 publication, *What is a Good School Appraisal Guide and Rubric*, as the focus of its work with districts on curriculum, instruction, organization, and assessments (both formative and summative). This document provides a consistent message to local staff that "... teams of educators visit schools across Tennessee to determine if teachers are really teaching and if all students are really learning to the best of their potential." The site visits employ a set of criteria for effective schools and a connected set of standards and measurement statements with matched rubrics.

The site visits result in an individual school profile of strength and areas of planning needs.

Washington State's School and District Improvement Division has implemented a School Performance Review (ED Audit) system. School performance reviews are conducted with all schools that have volunteered to receive School Improvement Assistance Program services. ED Audit teams, consisting of six to ten professionals, spend four to five days on-site looking at curriculum and instruction through the lens of the *Nine Characteristics of High Performing Schools* and alignment with the research on high-performing districts. Data sources that support the School Performance Review include classroom visits and observations, interviews, focus groups, and other documentation. The School Performance Review final report is one component of a data portfolio that staffs consider and discuss for data-driven decisions and the revision of the school improvement plan. Within two weeks of the visit, the School Performance Review team leader presents the report to the full staff; the school is responsible for sharing the report with their community for input. The final report becomes one part of the school improvement process.

Montana staff adapted the Kentucky Department of Education's model to develop its statewide system of support. The priority schools all undergo a scholastic review to assess three areas: academic performance, environment, and efficiency. The purpose of the review is to analyze the strengths and limitations of the school's instructional and organizational effectiveness. The findings are used to make specific recommendations to improve teaching and learning.

14.2 State process in place to disseminate the status of districts and schools

For this indicator, the range of possibilities is from not having a rationale for placement on the ESEA sanctions list of districts and schools or length of time on the list to having detailed analyses of those on the ESEA sanctions list including which interventions are associated with moving schools off the list and recommendations for future interventions.

14.3 State process in place to monitor the progress of individual districts/schools

For this indicator, the range of possibilities is from the state having no process in place to formatively evaluate the progress of districts/schools on ESEA sanctions lists to using formative evaluation data, monitoring the progress of district/schools, suggesting modifications in local staff practices, and providing evidence that such modifications have been implemented by districts/schools.

In Delaware, the application, evaluation, and monitoring systems are in the process of being revamped so that they provide the infrastructure to support the SSOS. Delaware has revised the District and School Improvement Plans (now District and School Success Plans) so that they articulate the complete strategic plan for the agency—one plan that encompasses all students.

The Ohio Department of Education assigns State Diagnostic Teams (SDT) to review districts in need of the most support. They conduct thorough examinations of districts and their schools including, among other things, walk-through observations and focus groups, and then report their findings. School Support Team (SST) members make an effort to attend review meetings between local staff and the SDTs, serve as a liaison between the local staff and the SDT, and help the districts design action plans that address the weaknesses identified in the SDT's reports. With regard to monitoring progress, the SSTs measure impact after training and follow up with the districts to see what changes in practice have taken place and the effects of those changes.

Oregon's SSOS facilitators meet regularly with the school improvement staff and monitor evidence of implementation to determine where additional assistance may be needed.

Part D: Outcomes for Schools Served by the Statewide System of Support

15. Outcomes/results

15.1 -15.3 Results/Outcomes

For these indicators, the possibilities range from the state having fewer than 25% of schools/districts targeted for improvement meeting the state

benchmarks for student achievement, student attendance, and graduation rate to having at least 75% meeting the state benchmarks. In order to rate these indicators, the state must have the data available to show improvement.

Though data specific to the percentage of schools/districts targeted for improvement meeting the state benchmarks have not been collected in the CII state case studies, some states included collection of data related to outcomes as a part of their SSOS evaluation process.

In Ohio, the School Support Team (SST) members perform quarterly Partnership Agreement reviews with all Tier 1 districts to document evidence of implementation and impact and to revise strategies based upon data.

Interviewed states indicated they used both perception surveys and achievement data to evaluate the impact of their SSOS systems. Alabama uses the number of schools in improvement status, whether there has been an increase in student achievement scores, and informal surveys of regional staff. Kentucky uses interim and summative assessments. Tennessee employs the results from the assessments and several non-academic indicators: graduation rate, attendance, suspensions, expulsions, and teacher quality data. Among the evidence showing the effect of the State of Washington's process for school improvement are several evaluations which show that fidelity of implementation of school improvement efforts has been strong. Sixty-five percent of respondents from the cohorts of schools that have gone through the Performance Agreement process using SEA- funded Facilitators felt that student achievement had increased during their three years as measured by the percent of students meeting the standard on Washington's reading and math tests.

Illustrating the Scoring System

Steven Ross, Carole Perlman, C. Thomas Kerins, Susan Hanes

SSOS Rubric Exemplars

(Mostly from states' open-ended questionnaire responses)

Part A: SSOS Plan and Design

1	Specified comprehensive plan for SSOS	
1.1	Design and organization of a statewide system of support (SSOS)	The state department of education (SDE) has been working to advance an agenda that it outlined in a key planning document that was released nine months ago, titled "Forward Thinking." This plan articulates a mission, goals, and timelines for the state department of education staff to provide better service to the field in support of enhanced student results. To get this message out, the Commissioner of Education visited 55 of 178 districts. In these visits, he worked with superintendents one-on-one. The reviewers rated the state as operating at **Level II** on this indicator. Although the planning document was viewed as a good beginning toward creating a fully documented SSOS system, still lacking (to achieve Level III) is an operations manual that more explicitly describes the roles and responsibilities of offices within and external to SDE. **Exemplary Evidence of High Performance** ☑ SSOS operations manual ☑ Organizational chart for SSOS functions ☑ Role descriptions of key SSOS staff

1	Specified comprehensive plan for SSOS	
1.2	Oversight and coordination of the SSOS	To ensure that resources are leveraged in a way that aligns with the new mission of increased service to the field, the Commissioner authorized a study (conducted by an external organization) that has identified how state department of education resources can better align with priorities. Based on that study, SDE devised a written plan for coordinating services. Last fall, SDE staff, representing several federal and state programs, began using the plan to identify high-priority service areas (e.g., early literacy) identified as most in need of higher efficiency in resource allocation. The reviewers rated the state as operating at **Level III** based on its development and early implementation of a written plan for coordinating resources. To achieve Level IV, a more systematic and full implementation of the plan, with evidence of positive outcomes in achieving greater efficiency, would be needed. **Exemplary Evidence of High Performance** ☑ A written plan for oversight and coordination of resources ☑ Meeting agenda and other records of communications (with districts/schools) ☑ District/school data demonstrating implementation of state plan ☑ Survey data from schools/districts regarding use of plan, outcomes, etc. ☑ Statewide or case specific data demonstrating reduction of duplicated services, greater efficiency in services, cost savings, etc.
1.3	Differentiating support to districts and schools	The state has developed a set of criteria that prioritizes schools/districts according to need. Student achievement is given the highest weighting, but other factors include graduation rates, student mobility, and teacher qualifications and mobility. Rather than developing a single, quantitative index, the state uses these data to categorize schools and districts into four "need" categories (critical, high, moderate, and low). Based on an analysis of need and services already rendered, support is tailored to meet the unique needs of each high-priority school based on the school's comprehensive needs assessment and school improvement plan. The reviewers rated the state as operating at **Level IV**. Evidence showing that support was, in fact, being implemented differentially according to school and district needs was judged to meet the criteria for the highest performance level on this indicator. **Exemplary Evidence of High Performance** ☑ A written plan documenting criteria for differentiating support ☑ Data showing differentiation of schools/districts (e.g., tiered listings of status or needs) ☑ Data describing the provision of differentiated services to schools/districts in relation to specific criteria (e.g., priority level, percentage of disadvantaged students, etc.)

1	Specified comprehensive plan for SSOS	
1.4	Meaningful state planning process for districts and schools	The state has developed a document, "Improvement Planning for Raising Achievement" for use by districts/schools. The document essentially provides a checklist of key areas to target, such as conducting a needs assessment, using data to drive improvement, recruiting/hiring qualified teachers, selecting evidence-based programs, etc. The document is posted on the SDE-SSOS website, and all districts and schools are encouraged to use it. The reviewers rated the state as operating at **Level II**. Although the state has a clearly defined and documented planning process for schools/districts, it still needs to develop an implementation program (including training and materials) to reach Level III and show evidence of schools' and districts' participation to achieve Level IV. **Exemplary Evidence of High Performance** ☑ Documented district and school improvement planning processes ☑ Training materials/tools for developing improvement plans ☑ Agendas/handouts/participation lists for training sessions ☑ Survey data from schools/districts supporting usage of the process ☑ School/district data demonstrating systematic improvement planning (e.g., a sampling of actual district and school improvement plans, identified reform interventions, etc.) ☑ Plan for monitoring districts' and schools' implementation of their improvement plans.

1	Specified comprehensive plan for SSOS	
1.5	State policy for intervening in districts and schools that repeatedly fail to meet SEA expectations for performance	SDE has a written plan and authority for intervening with the lowest-performing schools. Two critical elements of the plan are the (a) systematic tracking of school needs for SSOS and services received, and (b) use of distinguished educators to help schools conduct needs assessments and implement appropriate "turnaround" interventions. In addition, SDE has brought local superintendents and local school boards to the forefront of accountability by including them in discussions related to interventions in specific schools. The reviewers rated the state as operating at **Level III** based on its creation of a systematic plan. The involvement of the superintendents was viewed as a positive step toward putting in place a formal corrective action process (needed for Level IV), but as yet, full implementation of the plan elements (e.g., systematic tracking, use of DEs, etc.) remains to be achieved. **Exemplary Evidence of High Performance** ☑ A written policy, plan, and specific criteria for intervening in low-performing schools/districts ☑ Description of services provided to identified sites by distinguished educators ☑ Agendas/descriptions of meetings with "turnaround" school/district leaders ☑ Communications/records regarding corrective actions planned with targeted sites ☑ Documentation of actions/interventions taken with each school/district

2	Defined evidence-based programs/interventions for all students & subgroups	
2.1	Helping schools and districts better serve students with disabilities	To assist schools and districts in raising the achievement of students with disabilities, SDE uses an assessment tool, the LRE Assessment, in its SSOS to increase regional and LEA capacity to serve special education students. It provides additional help on an as-needed basis via site visits, consultants, and workshops. The reviewers rated the state as still operating at **Level I** due to the absence of a formal, documented plan for assisting districts/schools in serving special needs students. Once a plan is developed, the rating could rise to Level III due to the ongoing implementation of the service activities described. **Exemplary Evidence of High Performance** ☑ A written plan for assisting schools/districts failing to meet targets for students with disabilities ☑ Description of actual services provided in accord with the written plan ☑ Communications/records showing efforts to provide assistance to states/districts in serving students with disabilities. ☑ Survey data from schools/districts regarding usefulness of the state assistance provided and indicating one or more specific examples

2	Defined evidence-based programs/interventions for all students & subgroups	
2.2	Coordination of services for students with disabilities across SEA departments and programs to maximimize service and reduce duplication	SDE has held several meetings to engage the various departments in discussing ways of coordinating work efforts to support the needs of districts. Special education personnel are members of the School Improvement Roundtable, which coordinates the inter-departmental school improvement efforts, and helped to write the formal state plan for integrating special education services to districts. As part of the plan, special education specialists participate in all LEA Resource Team District visitations. The special education personnel and the Learning Resources Services in the regions collaborate with regional support teams to provide special education intervention and improvement services to schools. The special education personnel work with the school improvement personnel by coordinating special education monitoring with System Performance Reviews and share monitoring data with the Assessment of Performance on School Standards analysis teams. The reviewers rated the state as approaching Level IV, but still operating at **Level III**. Although there is a documented plan and many coordination activities are taking place, the review team did not see evidence indicating that several components of the plan (e.g., data usage and sharing) were being implemented. **Exemplary Evidence of High Performance** ☑ A written plan for integrating school/district assistance policies for serving students with disabilities. ☑ Description of services provided by special education and other SDE personnel in accord with the written plan ☑ Data collection/monitoring tools used in working with schools and districts ☑ Reports, organizational charts, or program descriptions showing increased coordination of services for students with disabilities. ☑ Survey data from schools/districts corroborating increased quality/ efficiency of state services and reduced redundancy in data collection and reporting, and indicating one or more specific examples

2	Defined evidence-based programs/interventions for all students & subgroups	
2.3	Helping schools and districts better serve English language learners	In accord with the documented plan, the state SSOS and the Office of Language Acquisition (OLA) operate within the Accountability and Targeted Assistance (ATA) cluster. This year, OLA staff actively participated in SSOS initiatives in all seven identified districts. In addition, ELL education facilitators/specialists participate in all LEA Resource Team District visitations. The third major part of the plan implemented last year was usage of an assessment tool by the SSOS to increase regional and LEA capacity to serve English language learners. The reviewers placed the state at **Level IV**. Implementation of the primary components of the overall plan for this indicator was judged to be reasonably complete. **Exemplary Evidence of High Performance** ☑ A written plan for assisting schools/districts failing to meet targets for English language learners ☑ Description of services provided by ELL education facilitators or other SDE personnel in accord with the written plan ☑ Communications/records showing meetings, site visitations, and other activities to help schools/districts meet ELL targets. ☑ Data collection/monitoring tools used in working with schools and districts ☑ Survey data from schools/districts regarding the effectiveness of state assistance provided, and indicating one or more specific examples

2	Defined evidence-based programs/interventions for all students & subgroups	
2.4	Coordination of services for English language learners across SEA departments and programs to maximize service and reduce duplication	SDE has worked with the directors of the regional centers to help enact new legislation in the state to better serve English language learners. This activity is helping to increase the capacity of regional centers to support improvement efforts in small and rural districts. The department has started to partner with the regional centers to provide enhanced regional trainings in identified areas of need. As an example, one pilot partnership focuses on the Native American student population. It will help ensure targeted interventions for preschool and kindergarten students. The pilot brings together services from English language acquisition, special education, and early childhood units. SDE is working on the development of a plan to formalize these and other services. The reviewers viewed the state as active and achieving some success in coordinating ELL services. However, it assigned a rating of **Level I** on this indicator due to the absence of a formal plan (which is presently in preparation). Without such a plan, the desired coordinating activities would not be clearly defined, thereby decreasing potential for accountability and sustainability. **Exemplary Evidence of High Performance** ☑ A written plan for integrating school/district assistance policies to serve English language learners ☑ Description of services provided by ELL staff or other SDE personnel in accord with the written plan ☑ Reports, organizational charts, or program descriptions showing increased coordination of services for ELL students ☑ Survey data from schools/districts corroborating increased quality and efficiency of state services and reduced redundancy in data collection and reporting, and indicating one or more specific examples

2	Defined evidence-based programs/interventions for all students & subgroups	
2.5	Reduced achievement gaps	This year, a cross-functional team of SDE staff has forged voluntary partnerships with a number of districts. The focus of the three-year partnerships is to close achievement gaps associated with race and income. The arrangement begins with a comprehensive appraisal of district improvement needs based on the state data system and framework for using the data in school planning. What emerges is a set of recommendations and a plan for improvement using evidence-based strategies. Each district then selects an "achievement gap consultant" who assists with plan implementation and professional development. The state department of education prequalifies these consultants and underwrites the cost of their service. The consultants broker services in a way that delivers customized resources to address the significant achievement challenges of the district. The reviewers rated the state as operating at **Level IV**, given its active assistance (via partnerships, communications, and funding achievement gap consultants) to districts and schools in identifying achievement gaps based on data and implementing evidence-based strategies to reduce the gaps. **Exemplary Evidence of High Performance** ☑ A written plan describing the process and requirements for schools and districts in using achievement gap data ☑ Description of actual services provided to identified sites by SDE staff or external consultants ☑ Written material (web-based or paper) identifying evidence-based strategies to reduce achievement gaps ☑ Agendas/descriptions of meetings or training sessions with school or district representatives regarding usage of achievement gap data or interventions ☑ Communications/records showing school or district implementation of interventions ☑ Test score data indicating narrowed achievement gaps

3	**Plan for evaluation**	
3.1	Documentation of school/district activities	SDE measures each participating district's and school's progress against 18 identified goals. A data "dashboard" is used to periodically check progress on each of the goals and can be seen (with the indicators) on the SDE-SSOS website. Indicators are those selected data points that are associated with each of the SSOS goals. An example of an indicator would be "number of schools coming off of the AYP Needs Improvement list." This indicator would be for the goal of reducing the number of schools that are on the AYP Needs Improvement list. Graduation rate is another example of an indicator that would be associated with the goal of increasing the number of students who graduate from high school. The AYP Report on the SDE website is used as a major indicator because it shows the AYP status of each individual school in detail. SDE also is currently initiating a School Improvement Management System (SIMS) that will document work and will show the types of interventions accomplished with each school and system. These data will be used to determine the patterns of effectiveness of certain types of work done in schools and systems by the Division of School and Leader Quality. The reviewers classified the state as operating at **Level IV** on this indicator. Based on the evidence, the state clearly was judged as having a fully operational system for documenting work with districts and schools. **Exemplary Evidence of High Performance** ☑ A written plan describing the process for documenting SSOS work with schools and districts ☑ A report or formal description of the actual SSOS work performed ☑ Data showing school and district outcomes in relation to SSOS services

3	**Plan for evaluation**	
3.2	Documentation of school/district perceptions	SDE has a documented plan for surveying all districts and schools served by SSOS. To date, it has administered an "Annual Stakeholder Survey" to attendees at all SSOS state and regional meetings. In addition, researchers at a local university recently completed a mixed methods study of perceptions about SSOS interventions by three urban and three rural districts that received services in 2007-08. The reviewers rated the state as achieving **Level II** on this indicator. Although a formal plan has been developed, the evaluation work thus far has been informal (relying on "convenience samples" of those attending meetings, and university research) rather than systematically implementing the plan. The latter activity would elevate the performance to Level III, whereas actual usage of the data to improve services would be needed to achieve Level IV. **Exemplary Evidence of High Performance** ☑ A written plan for collecting data on districts' and schools' perceptions of SSOS services ☑ Copies of the survey(s), interviews, or other instruments administered ☑ A description of data collection activities and schedules ☑ A report on the findings from the study ☑ Documents, reports, or other evidence that the perception data has been used for improving the SSOS

3	**Plan for evaluation**	
3.3	State system to evaluate the SSOS	State A is currently building an evaluation RFP that will outline indicators to measure both the implementation and the impact of the SSOS. With respect to the impact, they will look at measures in the longer term related to student performance. In the short term, they will examine the capacity of district and school staff before and following involvement in the state's system of support. The reviewers rated State A as operating at **Level I** on this indicator. Although the state is planning to conduct a rigorous and comprehensive evaluation using an external vendor, they are presently still in the "building" phase with regard to both the evaluation plan and its implementation. State B has made minor revisions to the Statewide System of Support Evaluation Rubric (Center for Innovation and Improvement, 2009), and is using that system as its evaluation plan. Several months ago, it completed its first implementation of the rubric by establishing review committees to examine evidence and rate performance on each indicator. It is presently analyzing the results. The reviewers rated State B as operating at **Level III**. The SSOS Evaluation Rubric enables State B to document the comprehensiveness of its system. Analysis, reporting, and use of the data to improve SSOS would elevate the rating to the highest category—Level IV. **Exemplary Evidence of High Performance** ☑ A written evaluation plan to determine the effectiveness of SSOS ☑ Copies of the data collection instruments (e.g., rubrics, surveys) employed. ☑ A description of data collection activities and schedules ☑ A report on the findings from the study ☑ Documents, reports, or other evidence that the evaluation results have been used for improving SSOS (new programs or policies, a SSOS improvement plan, etc.)

Part B: Resources

4	Staff	
4.1	Enhancing supply of teachers and principals skilled in school improvement	According to the state's plan, SDE regularly delivers professional development to turnaround administrators, superintendents, and school administrators. For increasing the supply of skilled teachers and principals, the plan also identifies strategies for helping higher education institutions to prepare teachers and administrators more effectively. In addition, high-need schools are identified for the Teacher Quality and Equity Action Plan for Title IIA. These schools are offered technical assistance and funding to increase the percentage of highly qualified teachers and decrease the percentage of inexperienced teachers. AYP priority status is often included as a selection criterion. The state disseminates information on incentives offered by districts via its website and other publications. Last year the state increased its supply of skilled teachers and administrators by 15% and 20%, respectively. The reviewers rated the state as operating at **Level IV** on this indicator. Specifically, the state has a documented plan, appears to be implementing it using multiple strategies (incentives, training, and information), and has increased its supply of qualified teachers and administrators over the previous year. **Exemplary Evidence of High Performance** ☑ A written plan for increasing the supply of teachers and administrators skilled in school improvement ☑ Documents/artifacts reflecting the strategies used ☑ Description of recruitment or outreach activities provided by SDE personnel in accord with the written plan ☑ School/district data showing increased supplies of skilled teachers or administrators (e.g., % working in low-performing schools compared to prior years)

4	Staff	
4.2	Incentives for addressing a more equitable distribution of highly qualified teachers within and across districts	The state annually collects and reports on the percentage of teachers by years of experience for both high- and low-poverty districts. It also annually reports the percentage of core academic subjects taught by non-highly qualified teachers. The state requires each district to conduct and certify a comprehensive desk audit documenting all this information. The reviewers rated the state as operating at **Level I** because there was no plan to respond to the findings of its annual data collections. **Exemplary Evidence of High Performance** ☑ A written plan for encouraging highly qualified teachers to teach in low-performing schools ☑ Criteria for identifying highly qualified teachers ☑ Documents/artifacts reflecting the strategies used ☑ Description of recruitment or outreach activities provided by SDE personnel in accord with the written plan ☑ Data indicating that more equitable distributions have been achieved state-wide (e.g., percentage of highly qualified faculty in identified schools compared to higher-performing schools; percentage of highly qualified faculty working in different regions, etc.)
4.3	Highly effective teacher recruitment and retention	This state believes that school improvement cannot occur in many targeted districts and schools without a strong induction and mentoring program coupled with a retention program that includes financial incentives and opportunities for teacher leadership. The state has a written plan that was the foundation for legislation supporting a beginning teacher mentoring program, which will be implemented next year. Regional Centers have begun training programs to assist teachers in becoming school leaders without necessarily becoming principals. The reviewers rated the state as operating at **Level III** because they had a written plan and were working concurrently at several levels to begin to implement their plan. **Exemplary Evidence of High Performance** ☑ A written plan for enhancing recruitment and retention of highly effective teachers ☑ Documents/artifacts reflecting the strategies used ☑ Description of recruitment or outreach activities provided by SDE personnel in accord with the written plan ☑ School /district data showing improved recruitment and retention of highly effective teachers (e.g., percent in low-performing schools; stability rates, etc.)

4	Staff	
4.4	Highly effective administrator recruitment and retention	After developing a plan of action, this state worked with teams from all of the universities that prepare school leaders to begin building a framework based on factors research has indicated are associated with effective school leaders. The state told the university teams, "We're going to work with you to analyze this information, and then we're going to help you restructure your administrator training programs. Your job is to go back and complete the redesign of your courses and your programs so that it meets this framework and gets at the critical success factors." The reviewers rated the state as operating at operating at **Level III** since there was a plan to upgrade administrator training, and the state had begun to implement this program with higher education personnel from all pertinent universities. **Exemplary Evidence of High Performance** ☑ A written plan for enhancing recruitment and retention of highly effective administrators ☑ Criteria for identifying "highly effective" administrators ☑ Documents/artifacts reflecting the strategies used (e.g., partnerships with higher education; new professional development programs) ☑ Description of recruitment or outreach activities provided by SDE personnel in accord with the written plan ☑ School/district data showing improved recruitment and retention of highly effective administrators (e.g., percent in low-performing schools; administrator mobility rates).

5	**Funding**	
5.1	Coordination among state and federal programs	SDE has developed a written plan to pool money from several federal and state funding sources to support school improvement. The rationale was to avoid duplicating expenditures for overlapping programs and interventions. Pooling technology funds enabled the SEA to obtain more bandwidth, thereby making the site where schools enter their improvement plans run faster and more reliably. The reviewers rated the state as operating at **Level II** on this indicator. Consideration was given to the state's development of a written plan and its initial attempts to integrate funding sources in a particular area. Expansion of the integration to include other programs and funding sources would elevate the rating to Level III or IV. **Exemplary Evidence of High Performance** ☑ A written plan to efficiently coordinate school improvement programs with different funding sources ☑ Reports or communications reflecting efforts to integrate programs ☑ Reports or program descriptions showing successful integration efforts ☑ Data reflecting savings in costs and resources (staff and materials) resulting from increased coordination of programs and improved services to schools and districts
5.2	State assistance to districts or schools in assessing their use of financial resources to fund improvement efforts	The state's written plan consists of two major areas of support. The first is to provide call-in consulting by the SEAs for helping districts and schools to align financial resources with priority improvement needs. The second component consists of regular visits by SDE business staff to schools repeatedly not making AYP. The business staff works with school personnel to ensure that discretionary expenditures align with needs. Both of these components are regularly implemented as part of the comprehensive SSOS plan. The reviewers assigned the state the highest rating—**Level IV**—on this indicator. The critical accomplishment for reaching this level was implementing the school/district visitations by budget staff. **Exemplary Evidence of High Performance** ☑ A written plan for helping schools and districts to assess their financial resources for school improvement ☑ Documents, reports, Internet postings, or other types of written guidance for analyzing budgets ☑ Documents/artifacts describing the supports in place (e.g., call-in service or site visits by SDE budget staff) ☑ Records of usage of the support services by schools and districts ☑ Survey data from schools/districts corroborating the availability and value of the services, and indicating one or more specific examples

6	Data analysis and storage	
6.1	Strong state data system	SDE has formed a "Study Committee" consisting of external and internal experts in data systems and user representatives (district and school administrators). The committee is in the process of significantly expanding the current data system, which lacks student identifiers consistent with those used by districts to track student progress and status. The completed system will provide comprehensive, user-friendly data to facilitate assessments of school and district progress on multiple indicators. The reviewers rated the state as performing at **Level II** on this indicator. The existing data system meets minimum ESEA requirements, and SDE is in the process of developing an expanded system that will effectively support school/district improvement efforts. **Exemplary Evidence of High Performance** ☑ A description of the present integrated data system, verifying its usefulness and efficiency (lack of redundancy) ☑ Sample reports (or printouts) from the data system illustrating outputs on a variety of indicators ☑ Records of usage of the support services by schools and districts ☑ Survey data from schools/districts corroborating the effectiveness of the state data system, and indicating one or more specific examples
6.2	SSOS use of assessment data	An SSOS subcommittee is charged with completing the yearly review of assessment data, according to the approved state plan. The review consists of using both quantitative data (reported by the system) and qualitative data (from district and school surveys) to identify ESEA population status and prioritize needs by student subgroup and schools. The resultant report is reviewed by a second subcommittee charged with designing differentiated services based on the priority listing. The reviewers evaluated the state's activities for this Indicator as meeting **Level III** requirements. The state was viewed as implementing its formal process, but not yet documenting (as required for Level IV) how it uses the assessment system as a tool in the development of further SSOS resources. **Exemplary Evidence of High Performance** ☑ A written plan for using state assessment results to provide differentiated SSOS services ☑ Documents/artifacts reflecting the strategies used to make decisions about schools/districts (e.g., committee review of data, district or school surveys, etc.) ☑ Reports or documents showing outcomes of data review and analysis (e.g., tiered listings of schools needing improvement) ☑ Data describing the provision of differentiated services to schools/districts in relation to criteria (e.g., based on priority level, poverty, regional needs) ☑ Description of further resources (training, consulting) provided to schools and districts on the basis of the assessment system

7	**Distinguished educators, consultants, experts, etc.**	
7.1	Matching schools/ districts with distinguished educators, support teams	SDE has formed 5 teams of distinguished educators to work with identified schools that are most in need of improvement. The teams presently operate on an "informal triage" system, whereby the Title I office identifies schools or districts viewed as "high priority" on the basis of test scores, district or principal requests, or other data. Approximately three-fourths of the low-performing districts/schools are being served by Distinguished Educators (DE) in some capacity. The reviewers evaluated the state as operating at **Level I** on this indicator. Although DEs have been serving the majority of the low-performing districts/schools, a formal plan for matching them to sites and structuring their work is still lacking. Thus, services are mainly determined and executed informally across the state. **Exemplary Evidence of High Performance** ☑ A written plan for (a) recruiting/screening distinguished educators, and (b) systematically matching schools and districts with distinguished educators/ support teams ☑ Documents/artifacts reflecting the strategies used (e.g., formation of teams, matching process, prioritizing of school districts or schools) ☑ Data reflecting the numbers/percentages of low-performing schools and districts served by distinguished educators/support teams ☑ School or district data describing specific improvement strategies being used as a result of the services ☑ Survey data from schools/districts corroborating the usefulness of the services provided, and indicating one or more specific examples

7	**Distinguished educators, consultants, experts, etc.**	
7.2	Training for distinguished educators and support teams	As required by the state plan, all Distinguished Educators must participate in three levels of training/professional development: (a) a one-week summer session, (b) a two-day refresher in early fall, and (c) ongoing coaching mentoring during the DE's first year. The "DE Academy," which delivers the training, conducts regular formative evaluations of the activities and services, using the data to make refinements as needed. The reviewers rated the state as operating at **Level IV** on this indicator. The training process for DEs was evaluated to be formally defined, comprehensive, fully implemented, and subjected to continuing review and improvement. **Exemplary Evidence of High Performance** ☑ A written plan to prepare distinguished educators and support teams to assist schools/districts ☑ Reports or documents describing a needs assessment conducted to identify training needs ☑ Data reflecting the number of training sessions held and number of participants attending each ☑ Training agenda and associated materials (guidebooks, powerpoints, handouts, etc.) ☑ Survey data from trainees corroborating the quality of services, and indicating one or more specific examples

8	**External providers**	
8.1	Organizational partners in the SSOS	Collaborations have been formed with Area Education Agency staff, other staff within the SDE, and external organizations (e.g., state-wide Parent Information Resource Center, School Administrators Association, and State Association for School Boards). SDE communicates with these partners intermittently as needed, and more formally in a "Critical Friends" session held at the annual state SSOS conference. The reviewers rated the state as having attained **Level II** on this indicator. Some external partnerships have been formed, and communications occur throughout the year. To reach a higher status, SDE should engage additional partnerships and formalize shared decision making (Level III). **Exemplary Evidence of High Performance** ☑ Reports or documents describing procedures for creating partnerships ☑ Written documentation of active partnerships inside and outside SDE, and their associated activities ☑ Data reflecting improvement activities by districts and schools in direct connection to the partnerships ☑ Agendas and associated materials (e.g., handouts, planning documents) from partnership meetings ☑ Focus group or survey data from schools or districts corroborating the effectiveness of services provided from partnerships

8	**External providers**	
8.2	Supplemental Education Services (SES) monitoring and evaluation	SDE has developed and is implementing formal processes for approving and monitoring providers. Specifically, the state website now contains complete and regularly updated information for providers, schools/districts, and consumers (parents and the public) regarding application and approval criteria, rating forms, expectations for monitoring, provider descriptions, etc. Last year, on-site monitoring of 25 out of 32 providers was conducted (the remainder were desk-monitored). SDE is preparing an RFP to contract for a rigorous third-party evaluation of student achievement outcomes beginning the next school year. The reviewers rated the state as achieving **Level II** on this indicator. The provider approval and monitoring processes are well established, but as yet, the evaluation component has not been initiated. When the RFP study is conducted, the state could jump to Level IV, provided the three processes are implemented fully and formally evaluated. **Exemplary Evidence of High Performance** ☑ Written plans for approving, monitoring, and evaluating SES providers ☑ Reports of results from the approval, monitoring, and evaluation processes ☑ Data or descriptions of actions taken based on the three processes ☑ A formative evaluation plan and associated data for improving SES monitoring and evaluation processes ☑ Survey data from districts, schools, and/or providers corroborating the implementation of quality monitoring and evaluation processes, and indicating one or more specific examples ☑ Publicly available SES evaluation data to assist schools/districts in selecting providers

Part C: Implementation

9	Removal of barriers to change and innovation	
9.1	State opportunities for change	SDE is working with the governor and state legislature to create more flexibility in selected policies, particularly in alternative programs for teacher licensing and principal certification. Meetings are scheduled for later in the school year. The reviewers rated the state as operating at **Level I** on this indicator. Although SDE is attempting to promote removal of barriers to change, a formal process has not yet been developed or implemented. **Exemplary Evidence of High Performance** ☑ A documented process for identifying and removing barriers to change ☑ Reports or documents describing actions taken by SDE (or partners) to assist districts and schools in removing barriers ☑ Data reflecting activities by schools and districts to remove barriers ☑ Survey data from districts and states corroborating the effectiveness of the state support, and indicating one or more specific examples
9.2	Creating options for new types of schools, including charter schools	Two years ago, SDE drafted a formal plan for expanding options for charter schools and high school "career academies." Although the academy proposal is still under consideration, the State Board of Education and the legislature subsequently approved more liberal criteria for student eligibility to enroll in charter schools and increased the maximum number of charter schools in the state from 75 to 150. Last year, operating charter schools increased from 45 to 57. The reviewers rated the state as operating at **Level IV** on this indicator. Critical accomplishments included the creation of a written plan, implementation of new legislation, and growth in the number of new types of schools. **Exemplary Evidence of High Performance** ☑ A documented process for creating new types of schools ☑ Reports or documents describing actions taken by SDE to implement policy changes for creating new types of schools ☑ Data describing the new types of schools created each year ☑ Test score or other data reflecting the success of the new types of schools compared to traditional schools

10	Incentives for change	
10.1	State consequences for poor performance	SDE has drafted a plan for increasing the sanctions for schools and districts that perform poorly for multiple years. A major component of this plan is requiring a comprehensive needs assessment conducted by a third party evaluator, and the associated identification and adoption of evidence-based programs in mathematics and reading. The plan has been disseminated via the SDE website, at state meetings, and in publications sent to all schools and districts. The reviewers rated the state as performing at **Level III** on this indicator. To achieve Level IV, the state will need to produce evidence showing that the added consequences have been levied. **Exemplary Evidence of High Performance** ☑ A written plan extending ESEA requirements for levying consequences for low performance ☑ Websites or written publications communicating publicly the actions taken and the reasons for those actions. ☑ School or district reports reflecting improvement efforts taken in response to the sanctions
10.2	State positive incentives for improvement	In enacting its plan for providing incentives to schools/districts for improved academic achievement, SDE awarded during the last school year, 45 "Enrichment Grants" and 13 "Technology Integration Grants." The schools/districts that met "improvement benchmarks" were formally recognized at the annual Governor's Education Conference in July. The reviewers rated the state as operating at **Level III** on this indicator based on the implementation of its incentives plan. To achieve Level IV, evidence showing an increase in the number of improving schools/districts will be required. **Exemplary Evidence of High Performance** ☑ A written plan for awarding incentives to districts or schools for high performance ☑ Websites or written publications communicating publicly the incentives awarded ☑ School or district reports reflecting improvement efforts taken in response to the incentives ☑ Focus group or survey data from districts and states corroborating the impact of the incentives in stimulating positive change, and indicating one or more specific examples

10	Incentives for change	
10.3	Public disclosure of district and school performance	SDE has created a website that reports individual school and district AYP data in terms of the percentage of student subgroups that score Proficient or Advanced in reading/language arts and mathematics. The reviewers assigned a rating of **Level II** on this indicator. The state was viewed as providing only "limited data" to parents and the public. To attain Level III, a more informative, less technical version written in English and other languages as needed would be required, as well as more active efforts to disseminate the reports. **Exemplary Evidence of High Performance** ☑ Websites or written publications for communicating school and district performance publicly ☑ Data reflecting distribution to parents in English or other languages as appropriate. ☑ Survey data from parents corroborating the usefulness of the data (informative, user-friendly, timely, etc.), and indicating one or more specific examples ☑ Descriptions of changes made to the dissemination process based on parent feedback

11	Communications	
11.1	Clear and systematic communication paths exist within the SSOS	SDE has assigned two staff members from the communications office the responsibility of developing an inter-departmental communication process. A recent internal evaluation indicated that SDE employees had been dissatisfied with communications and interactions within and between departments. There was strong consensus that SSOS efforts were hampered as a result. The reviewers rated the state as operating at **Level I** on this indicator. At the present time, there is no documented plan for increasing communications, but it is anticipated that performance will rise to Level II when the two staff members complete the development of the communications process. **Exemplary Evidence of High Performance** ☑ A written plan for structuring, improving, and increasing communication within the SSOS ☑ Meeting agendas or records of inter-departmental interactions and other SSOS communications ☑ Reports or other documents associating communications with the improvement of services ☑ Survey or formative evaluation data from SDE staff corroborating improved communications within the SSOS, and indicating one or more specific examples

11	Communications	
11.2	Clear and systematic communication paths exist between the state/SSOS and districts/schools	SDE has designated a liaison from its staff to regularly transmit information regarding SSOS and related activities to districts and from districts to the SDE. This individual has created a plan, which includes an updated directory of individual contacts, school and district office information, and "checklists" of dissemination modes to consider (e.g., email, SDE website, publications, etc.). The reviewers assigned the state a rating of **Level III** on this indicator. There is regular and systematic communication using the state plan. To achieve Level IV, evidence of improved services and formative evaluation of the plan will be needed. **Exemplary Evidence of High Performance** ☑ A written plan for structuring, improving, and increasing communication between LEA staff and the state/SSOS ☑ Meeting agendas or records of LEA and state/SSOS communications ☑ Reports or other documents associating communications with the improvement of services ☑ Descriptions of dissemination modes used by the state/SSOS ☑ Survey or formative evaluation data from LEA staff corroborating improved communications by and with the SSOS, and indicating one or more specific examples

12	Technical assistance	
12.1	Delivering training to districts and schools in school improvement planning	SDE has developed a training process to prepare schools and districts for developing and evaluating school improvement plans (SIPs). Each identified school and district is required to train a leadership team once every two years. Accordingly, in the past two years, 100% participation has been achieved. The reviewers evaluated the state as operating at **Level II** on this indicator. Although a training process has been developed and fully implemented, it is limited to only one component—SIPs. By developing a more comprehensive process that also addresses needs assessments and implementation and evaluation of SIPs, the state would advance to Level III. **Exemplary Evidence of High Performance** ☑ A documented training plan to prepare schools/districts for improvement planning ☑ Training materials/tools used for improvement planning ☑ Agendas/handouts/participation lists for training sessions ☑ Survey data from schools/districts regarding use of plan, outcomes, etc., and indicating one or more specific examples ☑ District/school data demonstrating systematic improvement planning

12	Technical assistance	
12.2	Building parent involvement into school improvement	SDE has identified increased parent involvement in the school improvement process as a high-priority goal. Presently, each school is required to establish benchmarks for parent involvement, but strategies for achieving them have not been defined as part of the SSOS. The reviewers placed the state in **Level I** on this indicator. Advancement to higher levels will initially require a written training plan for involving parents (Level II) followed by implementation of the plan (Level III). **Exemplary Evidence of High Performance** ☑ A written training plan to prepare schools and districts for including parents in improvement planning ☑ Training materials/tools used for improvement planning ☑ Agendas/handouts/participation lists for training sessions ☑ Survey data from schools/districts regarding use of plan, outcomes, etc., and indicating one or more specific examples ☑ School/district data or artifacts showing implementation of parent involvement plans (benchmarks, parent meeting agendas, etc.)

13	Dissemination of knowledge	
13.1	State dissemination of knowledge and/or research based practices	In accord with its plan for disseminating knowledge, SDE has established a "communications office" that provides assistance to schools/districts via a call-in service, email notifications, a website, and a quarterly publication, *Effective Schools*. The reviewers rated the state as operating at **Level III** on this indicator, based on SDE's development and implementation of a dissemination plan (which appeared to address varied key topics for school improvement). To achieve Level IV, evidence that schools/districts are using the information to promote positive change is needed. **Exemplary Evidence of High Performance** ☑ A documented process for systematically disseminating school improvement information to schools/districts ☑ Description of SDE activities, staffing, and resources used for disseminating such information ☑ Sample websites or materials (manuals, reports) made available to schools/districts ☑ Data or reports describing actual usage by schools/districts ☑ Survey data from school/district staff corroborating the value of the information provided (informative, user-friendly, timely, etc.), and indicating one or more specific examples

13	Dissemination of knowledge	
13.2	State-specific products to help identified districts and schools	Two years ago, SDE received a grant from an in-state foundation to systematize its dissemination of products that support school improvement. Consequently, a website that lists available products was developed and a "resources center" was set up to provide information and distribute products to districts and schools. The resources center routinely follows up with consumers by requesting an online or phone evaluation of the products used. Requests for products has grown significantly (by over 20%) each year. The reviewers evaluated the state as clearly meeting criteria for **Level IV** for this indicator. Its program is documented, fully developed, and being used by schools and districts to advance improvement efforts. **Exemplary Evidence of High Performance** ☑ A listing of products made available to districts and schools to facilitate improvement planning (manuals, assessments, rubrics, etc.) ☑ Sample websites or other communications (manuals, reports) used to inform LEAs and partner groups of the products ☑ Communications (meetings, memos, etc.) with service providers to facilitate matching of products to school and district needs ☑ Data or reports describing actual usage by schools/districts ☑ Survey or formative evaluation data regarding the effectiveness of the products, and indicating one or more specific examples

14	Monitoring and program audits	
14.1	State program audits	Recommended interventions for school improvement are based on needs identified during a 3 day SDE "audit" visit (which includes classroom walk-throughs, interviews with district/school staff, students, and community members), assessment data, financial data, and Solutions Team Findings. The audit team presents a report to each identified district/school no later than 60 days following the visit. The reviewers rated the state as operating at **Level III** on this indicator. Although a systematic audit process is being implemented, remaining to be achieved is ensuring that the recommendations are actually being followed by the schools/districts involved. **Exemplary Evidence of High Performance** ☑ A documented process for conducting site visits to identified schools and districts ☑ Description of SDE activities, staffing, and resources used for visiting schools and districts ☑ Tools and materials reports used in the audit process ☑ Audit reports and recommendations for individual schools or districts. ☑ Reports describing results of the audits state-wide ☑ Survey data from schools/districts staff corroborating the value of the audits for improvement processes, and indicating one or more specific examples
14.2	State process in place to disseminate the status of districts and schools	Presently, SDE posts on its website a listing of all schools and districts in the state, accompanied by: (a) AYP status the past 5 years, and (b) if the school/district is identified for ESEA sanctions, the reason for that status. The listing is updated by August 15 each year. The reviewers placed the state at **Level II** on this Indicator. For advancement to higher levels of performance, the posting of school status would need to be augmented to include (a) a description of interventions used for identified schools/districts (Level III) and (b) a thorough analysis relating school improvement to the usage of various types of interventions (Level IV). **Exemplary Evidence of High Performance** ☑ A documented, tiered list of identified schools and districts ☑ Description of interventions used in serving the identified schools ☑ Data reflecting trends in moving schools off the list in various years ☑ Reports identifying interventions identified as effective for school improvement

14	Monitoring and program audits	
14.3	State process in place to monitor the progress of individual districts/schools	SDE has developed *Standards and Rubrics for School Improvement.* The needs assessment, which is completed by ESEA schools (site specific stakeholders) not making AYP and who are in some level of school improvement, first complete the needs assessment before writing a school improvement plan that requires the establishment of programs to address the specific needs of each district/school. The *Standards and Rubrics for School Improvement* address five critical standards: 1) School and District Leadership; 2) Curriculum/Instruction/Professional Development; 3) Classroom and School Assessments; 4) School Culture/Climate/Communication; and 5) Resource Management. SDE gathers financial and assessment data, the SIP, and a progress report on actions taken since the Solutions Team visit (2 years prior). Every classroom is visited for observation. School staff and pertinent district personnel are interviewed. All information is summarized in a report a few weeks later. The reviewers assigned the state the highest performance rating—**Level IV**, on this indicator. The state was viewed as having an exemplary system that has stimulated needed reforms by identified districts/schools. **Exemplary Evidence of High Performance** ☑ A written plan for formatively evaluating the progress of identified districts/schools ☑ Description of SDE activities, staffing, and resources used for formatively evaluating the progress of schools and districts in meeting improvement targets ☑ Tools, materials, and school reports used in the evaluation process ☑ Reports or other documentation of school improvement efforts based on the evaluation results ☑ Survey data from school/district staff corroborating the value of the formative evaluation process for improvement processes, and indicating one or more specific examples

Part D: Outcomes for Schools Served by the Statewide System of Support

15		
15.1	Student achievement	Analysis of state assessment data from last year produced the following results: ✦ Of the 12 districts targeted for improvement, 8 (75%) met state benchmarks ✦ Of the 55 targeted schools, 30 (55%) met state benchmarks SDE released several RFPs for rigorous evaluation studies of reading and mathematics interventions, but the proposal reviews are still in process. The reviewers placed the state at **Level II** on this indicator. The state met the criteria for Level III with regard to both district and school improvement in meeting achievement benchmarks. However, it failed to conduct any rigorous evaluations of its services. The present RFP process should fulfill this need next year. **Exemplary Evidence of High Performance** ☑ A report documenting the meeting of state achievement benchmarks by districts and schools ☑ One or more evaluation reports describing a rigorous study of intervention programs (e.g., a state-wide study on school reforms directly linked to services by Distinguished Educators) used to raise student achievement

15		
15.2	Student attendance	State-wide attendance outcomes for targeted districts and schools revealed that: ✦ All targeted districts (100%) met state benchmarks. ✦ 82% of the targeted schools met state benchmarks. ✦ SDE assisted the two largest districts in varying student enrollment assignments to reduce commuting distances. These changes were associated with significant attendance increases. ✦ State experts in secondary school education worked with two low-performing high schools to explore effects of starting school later in the morning. Absences and tardiness decreased at these schools by 10% and 29%, respectively. The reviewers placed the state at **Level IV** on this indicator. Both the schools and districts met the attendance benchmark criteria, and supportive evidence for two programs facilitated by the SSOS was presented. **Exemplary Evidence of High Performance** ☑ A report documenting the meeting of state attendance benchmarks by districts and schools ☑ One or more evaluation reports describing a study of programs designed to raise attendance (e.g., schedule changes, parent involvement, hiring additional social workers, etc.) ☑ Convincing data supporting the effects of an intervention program
15.3	Graduation rates	Benchmarks for graduation rates were met by: ✦ 2 out 6 targeted districts (33%) ✦ 31 out of 50 targeted schools (62%) ✦ Four years ago, SDE conducted workshops and disseminated information on ninth-grade academies, resulting in their implementation in 12 high schools. Of the 5 schools that were targeted this year, 3 met state graduation benchmarks and 2 did not. The reviewers placed the state at **Level II**. Although the Level III criterion was attained by 62% of the schools meeting the benchmark, the district rate of only 33% fell short of the 50% needed. The ninth-grade academy trend data presented was equivocal and, even if supportive, would still require higher district benchmark performance to reach Level III. **Exemplary Evidence of High Performance** ☑ A report documenting the meeting of state graduate rate benchmarks by districts and schools ☑ One or more evaluation reports describing a study of programs designed to raise graduation rates (e.g., mentoring, after-school tutoring, reduced class size, etc.) ☑ Convincing data supporting the effects of an intervention program

Evaluating the Outcomes of the SSOS

Steven Ross, C. Thomas Kerins

Qualities of an Effective Evaluation of the SSOS

By systematically and rigorously evaluating their statewide systems of support (SSOS), states realize several important benefits. One is making reliable and valid judgments of the status of the services provided: How fully are the desired services being implemented? To what degree are the expected outcomes for identified schools and districts being achieved?

A second important benefit is using the evaluation results to create accountability by the SDE and external organizations (e.g., providers, universities, consultants, community agencies) offering the services. A third benefit is demonstrating accountability to consumers, namely, the schools and districts served, students, parents, educators, and the general public. A fourth is developing a process for continuous program improvement by sharing evaluation feedback with all stakeholders and establishing defined improvement goals.

To be useful, an evaluation process, first and foremost, must be *valid*. Validity simply means producing results that are reliable (e.g., accurate, consistent, replicable) and meaningful (i.e., relevant to program goals). In the case of the SSOS, which encompasses a broad range of services, providers, and stakeholders, validity is achieved in ways that strike a balance between what is practical and feasible but also sufficiently rigorous and credible. Thus, a highly controlled experimental study would likely provide a great deal of rigor (and maybe a journal publication for those so inclined), but would hardly be practical for addressing the complexities and range of SSOS services. At the other extreme, basing a judgment primarily on anecdotal data (e.g., "We heard at the conference that Oak County Schools are doing great this year!") or subjective impressions (e.g., "Our data system seems far superior to what other states have.") may seem practical and feasible to some but certainly would not be rigorous and credible.

As evidenced by the "Statewide System of Support Evaluation Rubric," state evaluations of their SSOS focus on three main properties of the services provided:

- Whether or not a particular tangible *product* has been created (e.g., "The state has a documented training plan and policy to prepare distinguished educators to assist districts and schools.")

- Whether particular *actions* have been taken toward achieving desired goals ("The state assists districts and schools in implementing strategies to reduce achievement gaps.")
- Whether tangible *outcomes* have been attained (e.g., The recruitment and retention of highly effective administrators has improved by 25% over last year.")

Directly relevant to all three attainment categories is the dimension of "quality"—to what degree or how effectively does the product, activity, or outcome meet desired standards as defined in the SSOS rubric performance levels? Judging quality significantly elevates the value and impact of the evaluation process. But there is one "catch." To judge a service, standards or criteria are needed. The SSOS rubric performance levels provide a general framework, but it is up to each state to identify the specific standards. What constitutes an "enhanced recruitment" of highly qualified administrators or "greater efficiency" in resource allocation? Some rubric indicators are more amenable to specific (e.g., numerical) standards than others, but to have a strong SSOS evaluation, all indicators need further definition of what lower and higher quality products, actions, and outcomes are.

For balancing the practicality and rigor of SSOS evaluations, a key component is having *evidence* to support judgments of quality of services. Evidence can take many forms, as illustrated in the examples provided in "Illustrating the Scoring System" found in the previous chapter. But, to ensure rigor and credibility, the evidence considered should have the following properties:

- It is ***tangible***—information or data that can be examined, verified, replicated, and/or judged by an external evaluator.

  Examples
  - A documented plan
  - A meeting agenda
  - Survey responses
  - AYP outcomes
- It is ***objective***—information or data obtained from extant records or sources not having a personal stake in the evaluation results.

  Strong Examples
  - "80% of the principals surveyed rated the Distinguished Educators' support as *very* helpful, and they were able to provide a specific example of how these Distinguished Educators helped their school."
  - "Trend data show a 15% increase in the number of organizational partners that work with the state to provide specific assistance to schools identified as needing help."

  Weak Examples
  - "The Supplemental Educational Services team confirmed that its system is being well received by parents."
  - "The Governor touted the state's progress in assisting low-performing schools since he took office."
- It is ***relevant***—information or data directly connected to evaluation standards or goals (e.g., "Statewide System of Support Evaluation Rubric")

  Strong Example
  - A state rates itself as being at Level IV (full level of implementation) in delivering training to districts and schools in school improvement planning. One piece of evidence is a report by each district documenting the interventions identified as implemented in direct response to the training.

  Weak Example
  - A state rates itself at Level IV in delivering training to districts and schools in school improvement planning on the same indicator based on a synthesis of School Improvement Plans (SIPs) submitted electronically by schools state-wide. (Note that the SIPs are required of all schools and may not have any connection to the state's achievements in SSOS training!)
- It is ***evaluative*** rather than merely descriptive—information or data that can be judged in terms of quantity or quality (and, ultimately, achieving the indicator standards). Contrast the differences illustrated on the next page.

Table 1: Contrast Between Descriptive and Evaluative Evidence

Indicator	Descriptive Evidence	Evaluative Evidence
Building parent involvement	A copy of the manual used for training school leaders but no evidence that it is used by SEA staff or is available for LEA staff	School reports evaluating actual parent programs implemented in response to the training
Clear and systematic communication paths within SSOS	A bar chart showing the number of hours of meetings held each month with service providers	Survey data from providers showing how the communications were useful in improving services
Strong state data system	A technical report describing the properties of the data system	User data showing increases in the frequency with which schools and districts access the system

Evaluation Recommendations

The examples in Table 1 all represent processes and activities that occur as part of or a result of SSOS. That is, survey data may indicate positive perceptions by providers (e.g., universities or regional service centers) of the communications they received in connection with SSOS services, or a newly published guidebook may appear well designed and useful to school leaders attempting to increase parent involvement. Positive attainments in the numerous types of services defined by the SSOS Rubric indicators represent important progress toward, but not necessarily accomplishment of, the ultimate goal of the SSOS—improving educational outcomes for students. Accordingly, *Part D, Section 15* of the Rubric—referred to as the essential indicators—was created for the purpose of guiding evaluation of the latter outcomes. For clarity and convenience, we repeat the *Rubric* section dealing with student achievement in Table 2 below. You may recall that the full Rubric includes two additional essential indicators addressing attendance and graduation rates, respectively.

Table 2: Student Achievement Section from Rubric Part D-Section 15

Essential Indicators	Level I	Level II	Level III	Level IV
15.1 Student achievement	Fewer than 25% of schools/districts targeted for improvement have met state benchmarks in student achievement.	More than 25% but fewer than 50% of schools/districts targeted for improvement have met state benchmarks in student achievement.	More than 50% but fewer than 75% of schools/districts targeted for improvement have met state benchmarks in student achievement. At least one rigorous evaluation, sponsored by the state or school districts, has been conducted this year to determine the effects of major programs or interventions on student achievement.	At least 75% of schools/districts targeted for improvement have met state benchmarks in student achievement. At least two rigorous evaluations, sponsored by the state or school districts, have been conducted this year to determine the effects of major programs or interventions on student achievement.

What makes this set of indicators *essential*? The SSOS is ultimately about improving the achievement and educational success of students enrolled in the schools and districts served. Not coincidentally, these schools and districts are held accountable by the Elementary and Secondary Education Act (ESEA) for achieving state standards in these same areas (i.e., student achievement, attendance, graduation). Because these outcomes are "distal" or "culminating," they may not be affected *immediately* by SSOS services. Therefore, judging immediate (proximal) progress solely on the achievement of state benchmarks may be misleading. Take, for example, a situation in which a SDE designs and delivers a high-quality training program to prepare principals for turning around low-performing schools. Although we would expect this program to impact student achievement *eventually*, time will be needed for the principals to meet and work with teachers, who, in turn, will need time to replace traditional strategies with more effective ones. So, any given SSOS service, no matter how well designed and delivered, may fail to impact essential indicators demonstrably in the short run. But, to be judged as successful, SSOS services as a whole should be producing measurable gains over time.

Given these considerations, we next offer recommendations for making evaluations of states' performance on the essential indicators more comprehensive and meaningful.

Recommendation 1: Treat the essential indicators section (*Rubric Part D, Section 15*) as a ***basic*** framework (or starting point) for evaluating state performance. Probing more deeply and analytically into the results elevates the evaluation to the next level—understanding the data and its implications. Specifically, the basic Rubric performance rating (see Table 2) is certainly relevant for accountability purposes and generating an overall picture of the status of the targeted schools/districts (i.e., the percentages achieving state benchmarks). But unfortunately, that information alone conveys little about the true effectiveness of the SSOS. Suppose, for example, that 100% of the identified schools reach benchmarks in a given year or, disappointingly, none does. Even in these extreme situations, the quality of the SSOS services provided could have ranged from poor to excellent. Factors such as the difficulty level of last year's state assessment, changes in benchmark standards, characteristics of the schools and students, or the effects of academic programs implemented independently of the SSOS could influence educational outcomes substantially. So, although the overall Rubric rating is a logical starting point, the evaluation process should not end there. Recommendations 2 and 3 suggest some useful extensions.

Recommendation 2: Supplement the basic Rubric evaluation (Recommendation 1) with follow-up analyses of probable "root causes" of successes and failures. Such analyses do not require expensive or intensive research studies, but rather efforts to identify: (a) potentially successful turnaround strategies that may be transferred to other schools; (b) unsuccessful strategies or conditions that need replacement by alternative interventions; and, most fundamentally, (c) explanations of the outcome data relative to the SSOS services provided. Consider the following examples:

- School A increases its mathematics scores to surpass state benchmarks for the first time in three years. Follow-up study (e.g., a brief site visit by SDE) reveals that the school implemented a new mathematics curriculum using interactive multimedia, cooperative learning, and after-school tutoring.

Implication: The new program appears to have had a positive effect and may have potential to raise achievement in other low-performing schools.

- School B increased its reading scores significantly over the past year. Follow-up study of student enrollment patterns reveals that community rezoning decreased the number of disadvantaged students who attended the school by 50%.

Implication: The rise in test scores could be attributable, in part, to some SSOS services, but appears (for this year at least) directly linked to the changes in student enrollment. Continued evaluation is needed.

- School C failed to achieve state benchmarks in graduation rates and attendance, even though

it received intensive SSOS services in teacher and principal professional development, technology integration, and using data for instructional decisions. Follow-up study indicates that over 60% of student enrollees are English language learners, many of whom have high absence rates due to returning to their home communities for extended periods.

Implication: The school serves a high at-risk student population that may not show immediate or strong gains from routine SSOS services. Consideration, therefore, might be given to replacing or supplementing these services next year with more powerful interventions adapted to students' needs.

- School D had several student subgroups fail to attain AYP in reading. Follow-up interviews with the principal and literacy coaches reveal that the new reading and language arts curriculum recommended by SSOS consultants was poorly supported by the provider (late arrival of materials, inadequate professional development, etc.).

Implication: Although the SSOS services were directed to a relevant improvement need, the particular intervention adopted was ineffective and needs refinement or replacement.

Recommendation 3: Supplement the basic rubric evaluation (Recommendation 1) and follow-up analyses (Recommendation 2) with rigorous evaluations of selected interventions. Note that to achieve Levels 3 and 4 on the *essential indicators* (see Table 2), evidence from one or more program evaluations is required. The overall SSOS evaluation and follow-up studies are limited to providing only suggestive and general results concerning SSOS effects. As will be discussed in detail in the next section, more rigorous research can provide more valid evidence by incorporating comparison (control) groups, measures of implementation fidelity, and, in general, higher degrees of control over study conditions (extraneous or "confounding" factors). Brief illustrations of rigorous studies are:

- SDE releases an RFP for an evaluation of a block scheduling program implemented in 15 low-performing high schools. The RFP requests assessments of program implementation, teacher and student reactions, and test scores on "Gateway" exams compared to similar schools not using the program. A local university wins the award and conducts the evaluation research.
- SDE provides data and analysis support to assist a school district research department in evaluating the services of distinguished educators assigned to identified schools. The study involves documenting the types of services provided and specific changes in practices (corroborated through observations, interviews, and artifacts) resulting from each category of support.
- The SDE assessment department conducts a study of student achievement patterns in schools that implemented a new reading curriculum as part of the SSOS services received. The study compares the reading scores of students in years prior to and following use of the program as it was introduced in different classes and grades.

Characteristics of Rigorous Studies

Accurate and Relevant Data

Knowing that educational research is "rigorous" naturally raises expectations about its credibility and value. But what does rigor imply as an attribute of a research study? There are several meanings.

One meaning is that the data give a true picture of the phenomena being described. Simply put, the results will be complete, trustworthy, and directly address the research questions of interest. Suppose for example, that the question of interest is whether, after receiving professional development made available through SSOS, teachers use more student-centered instruction.

Weak Evidence

- Teachers liked the professional development activities
- The providers of the professional development believed the offerings to be successful
- SDE staff observed the professional development offerings and rated them positively

Suggestive Evidence

- Teachers express more favorable attitudes toward student-centered instruction
- Teachers indicate that they use more student-centered instruction than in the past
- Principals and grade-level leaders indicate observing more frequent student-centered instruction than in the past

Strong Evidence

- Systematic observation by independent observers shows significant increases in student-centered instruction relative to the baseline (prior to the professional development) and over time. In teacher interviews, there is strong consensus that the professional development was effective.

Internally and Externally Valid Experiments

Experimental research differs from other types of studies by focusing on *causal* interpretations of program or "treatment" effects. A key component of experimental design is comparing treatment and control groups, with group assignments, preferably made randomly.

Internal validity. One quality of rigorous experiments is possessing high internal validity. This means that the outcomes measured (e.g., teaching behaviors, test scores, graduation rates, etc.) can be confidently attributed to the intervention and not to extraneous factors.

Higher Internal Validity Example

SSOS services are helping low-performing schools to implement a new after-school tutoring program called "Afternoon T." In the interests of supporting a rigorous research study, the participating schools agree to make the program available through random assignment to half of the students who sign up. The other half are assigned to participate in the traditional after-school program. At the end of the year, test score gains are found to be significantly higher for the Afternoon T group than for the traditional group. Because all conditions were exactly the same for the two groups except for the program received, it is concluded that Afternoon T was effective in raising achievement.

Lower Internal Validity Example

Students who volunteer to participate in a new after-school tutoring program, "Afternoon T" are compared to those who don't sign up. At the end of the year, test score gains are found to be significantly higher for the Afternoon T group than for the control group. While these results are encouraging, they could be due to motivation and parental interest being higher for the volunteer group. Also, the volunteer group received extra tutoring whereas the control group received none. The effectiveness of Afternoon T as an after-school program, therefore, is only suggested.

External validity. A second dimension of experimental rigor is high external validity. This means that the findings are generalizable to the types of situations (e.g., schools, students, teachers) of interest. For example, suppose that a wealthy pharmaceutical firm awards a large grant to each elementary school in a small city to hire three full-time social workers, a school psychologist, and a school nurse. An experimental study shows that, over the next two years, student attendance is significantly higher at these schools than at matched comparison schools. Although it seems likely that the added personnel were effective (i.e., the cause of fewer student absences), the special circumstances and excessive costs involved in this "intervention" reduces generalizability to other schools. Thus, external validity would be low compared to a more affordable program.

Evaluating Service Quality Through School/District Case Studies

Regardless of what an overall state-wide evaluation of the SSOS might indicate, additional insights of importance can be obtained at the individual school and district levels. In this section, we suggest strategies for conducting simple "case studies" of the SSOS services provided for schools/districts in relation to changes in educational outcomes.

Creating a Profile of Services

Which SSOS services were provided to individual schools? What were the intensity, duration, and quality of each service? Did any of the services appear to be effective in producing desired changes? Answering

these questions is not only relevant to the evaluation of SSOS in general, but most importantly, reveals what is being done to what effect in particular contexts. For example, it may be found that for some schools, "technical assistance" in recruiting skilled teachers primarily consists of weekly phone calls or emails from a SDE staff member. For other schools, the support may be two-day site visits from marketing consultants and union representatives who map out a systematic recruitment plan and benchmarks. We would expect the latter, much more intensive type of service to be more effective in achieving goals, but is that actually the case? Knowing the answer will inform decisions on whether to continue that service another year or try something different.

The first step in conducting a case-study profile is to document the services provided to the individual site (school or district). We suggest a simple checklist (preferably, an online version), that lists each school and district receiving SSOS services, followed by specification of:

1. **Nature of service** (brief description of what was done by whom, when, and where)
2. **Focus of service** (e.g., curriculum alignment, using assessment data, educating English language learners, etc.)
3. **Intensity of service** (e.g., onsite, workshop, email, etc.; staff and other resources used)
4. **Duration of service** (number of days, one-time vs continuous)
5. Effectiveness rating: Was the service associated with positive educational outcomes? (Yes, Probably, No)
6. Explanation of effects (If effectiveness rating was "Yes" or "Probably," describe the evidence.)

Although such checklists will not prove definitely the effectiveness or ineffectiveness of particular services, they should provide valuable and readable information for (a) profiling each school/district with regard to the services provided, and (b) relating each set of services to educational outcomes.

To enable a stronger analysis of services effects, an extension of this process is suggested below.

Relating Service Inputs to Outcomes

Simply because a particular service encompasses many communication contacts or hours doesn't mean that it will be more effective than one with more limited time or activity. Realistically, effectiveness will be influenced by multiple factors interacting in combination with one another. To help identify what input levels are associated with desired results, we suggest supplementing the basic case study framework just described with a rubric evaluation of three dimensions of each service listed: *Intensity*, *Duration*, and *Quality*. If, for example, the ratings showed that a particular service (e.g., technical assistance for data usage) was limited to a one-hour workshop, only modest changes (if any) might be expected. On the other hand, if a different service (assistance in establishing partnerships) was consuming extensive time and resources but producing little change, then its continuation would likely be re-evaluated. Some ideas for such a rubric are offered in Table 3. We suggest that refinements be made by each state based on preferences and experiences from application trials.

Table 3. Sample Rubric for Evaluating Service Intensity, Duration, and Quality in Case-Study Profiles

Service Activity Dimension	Not Rated	Low	Moderate	High
Intensity	-Not applicable due to lack of data	-Minimal resources provided (materials, personnel) -Few staff or experts (1 or 2) involved directly -Mostly distance communications (emails, phone calls, publications) -Small scope (affecting only a few educators, students, or parents) -Potential indirect links to outcomes (e.g., impacts knowledge of target group)	-Moderate resources provided (material, personnel) -Several staff or experts involved directly -Some face-to-face interactions (site visits, meetings, consults), possibly combined with off-site communications (calls, emails, publications) -Moderate scope (medium-scale intervention affecting multiple educators, students, or parents -Potential indirect or direct links to outcomes (e.g., impacts attitudes or behaviors of target group	-Extensive resources provided (materials, personnel) -Many staff or experts involved directly -Multiple face-to-face interactions (site visits, meetings, consults, etc.) -Comprehensive scope (large-scale intervention affecting many educators, students, or parents) -Potential direct link to outcomes (e.g., impacts behavior of target group)
Duration	-Not applicable due to lack of data	-Limited time (< 3 days total) -Restricted time (extends less than 3 months)	-Moderate time (> 3 days total) -Somewhat distributed time (extends over 3 months)	-Extensive time (>10 days total) -Distributed time (extends over half of the year)
Quality	-Not applicable due to lack of data	-Weak implementation -Not favorably received by school/district (supported by evidence)	-Adequate implementation (supported by evidence) -Mostly favorably received by school/district (supported by evidence)	-Strong implementation (supported by evidence) -Very favorably received by school/district (supported by evidence)

Working with External Evaluators

Whether a state chooses to work with an external evaluator will depend on several factors. One obviously is budget, as an external evaluator is likely to be more costly than performing the work in-house. However, if work can't be completed effectively by SDE staff due to lack of time, resources, or expertise, the ultimate cost could be many times greater than if an external evaluator were used. So, a second factor is preparedness and readiness for internal staff to complete the tasks required. A third factor concerns the nature of the evaluation study being conducted.

In general, completing the basic rubric ("Study I") and collecting follow-up data relating to the essential indicators ("Study II") are activities that states typically should be able to perform internally and benefit from by being engaged in analyzing and evaluating their own SSOS efforts. An independent evaluator might be employed (with only modest cost incurred) to review the evidence and corroborate the state's self-ratings. Conducting rigorous studies of specific interventions ("Study III") clearly is the most appropriate context for engaging external evaluators. One advantage of having external evaluators is that they have needed expertise in working with data, research design, and statistical analysis. A second advantage is that school and district staff are likely to be more candid with external evaluators than with state department personnel. A third advantage is the independence of external providers who have no personal stake in the effectiveness of the services being evaluated.

Working with external evaluators should neither be very costly nor difficult if a number of simple steps are taken:

- Use a systematic process to select the evaluator. Whether or not a formal "Request for Proposals" (RFP) process is employed, it is important to review the candidate's prior work and references from former clients.
- Establish a clear plan of work and budget. Important to the plan is specifying the research questions that need to be answered. Such questions take the form of: "What are the effects of the literacy program in raising student achievement?" "Do new teachers who received inservice mentoring stay in the field longer than those who did not receive mentoring?" Ensure that the study addresses these very questions (see next step).
- Monitor the study by meeting with the evaluators regularly, reviewing progress reports, etc. Obviously, once a study is completed, it is too late to refine it.
- Work with the evaluator to disseminate the results to different audiences. The value of good research is that it informs both policymakers and practitioners about which services and programs work and which do not.

Concluding Comments

As occurs with virtually all endeavors in education, the benefits of evaluation directly relate to the effort and resources put into it. Making snap, subjective judgments to get the evaluation requirement "over and done with" or to make something mediocre look good (to avoid ruffling feathers) ultimately benefits no one—least of all, low-performing schools—and actually can be harmful. If a service isn't functioning up to expectations, a positive evaluation erroneously communicates that all is going well and should be left alone. A truthful negative evaluation, on the other hand, provides the direct stimulus for making that service better over time. And, when a service *is* working well, credible evaluation results serve to recognize and sustain it. SSOS evaluations represent a type of service. The key to their working well, as we have emphasized, is using relevant evidence to make informed judgments relative to goals or standards.

About the Authors

SUSAN HANES has extensive experience in public education, including information management services, assessment development, research, program evaluation, and high school mathematics teaching. Her experience includes 12 years in the Georgia Department of Education in assessment development, director of statistical services and electronic data collection for statewide systems, and program evaluation. Dr. Hanes has worked in local school systems as the director of assessment, research and evaluation. She was the Director of Standards and Research for the Georgia Office of Education Accountability. She has conducted consulting services for the IES Longitudinal Data System Grants, technical assistance for the Performance Based Data Management Initiative (PBDMI), and consulting services and site visits with the Center for Education Leadership and Technology and CCSSO for the Decision Support Architecture Consortium. She is a consultant for the Center on Innovation & Improvement and coordinates the National Network of State School Improvement Leaders. She has served as a peer reviewer for the US Department of Education for Accountability Reviews and State Assessment System reviews since 1999 and has been a member of Title I State Monitoring teams. She has worked on committees for the CCSSO and National Center for Education Statistics including Chair, Implementation Task Force – National Forum for Education Statistics, 1990-1991; Task Force on Confidentiality, National Center for Education Statistics – Member, 1994-95; and Chair, Education Information Advisory Committee for the Council of Chief State School Officers, 1994-1995.

C. THOMAS KERINS serves as the Associate Director for Program Development for the Center on Innovation & Improvement (CII), where he has specialized in statewide systems of support, co-authoring case studies on five states. He holds a doctorate in educational administration from the University of Illinois and a master's degree in education research from Loyola University. He has held positions including the State Director of Testing for Illinois; Assistant Superintendent for School Improvement and Assessment for the Illinois State Board of Education; and Assistant Superintendent for School Improvement, Standards, and Assessment for the Springfield School District. In Illinois, he was Assistant Superintendent for District 186, and he was a member of the General Supervision Enhancement Grant (GSEG) Task Force, participating in all Task Force meetings, numerous meetings with ISBE staff, and several site visits to schools, districts and cooperatives around the state; he actively participated in all phases of the project and was especially instrumental in the assessment of local data quality and the development of the Annual State Report on Special Education Performance and the LRE Special Education Profile. He is an adjunct professor for the University of Illinois at Springfield, and a much-sought-after consultant with over 30 years in the field of education. Besides serving in a variety of roles at both state and local levels, he has held several honorary positions, is a prolific writer for various journals, and is a frequent presenter at conferences and symposiums.

CAROLE L. PERLMAN, before joining the Center on Innovation & Improvement, served as School Improvement Coordinator for the Chicago Public Schools from 2003 to 2006. For 20 years she was director of student assessment for the Chicago Public Schools and later served as School Improvement Coordinator. She holds a B.S. in Mathematics with honors from the University of Illinois at Chicago (UIC), an M.S. in Statistics from the University if Illinois at Urbana-Champaign and a doctorate in Public Policy Analysis from UIC. A past president of the National Association of Test Directors (NATD) and past board member of the National Council on Measurement in Education (NCME), she also served on the Center for Research on Evaluation, Standards, and Student Testing (CRESST) National Advisory Board and represented NCME for two terms on the Joint Committee on Testing Practices. She has served on numerous state and federal advisory panels, including the 1992 NAEP Reading Framework Steering Committee, the first NAEP Mathematics Standard-Setting Panel, the Education Information Advisory Committee's Assessment Task Force, and the Voluntary National Test Technical Advisory Committee. She is a frequent presenter

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Dr. Redding has served on a variety of state committees, including the standards-writing committee for the Illinois State Board of Education; the Positive Behavioral Interventions & Supports (PBIS) Leadership Team and the Illinois State Board of Education (ISBE) Parent Leadership Team; and the Collaborative for Academic, Social, and Emotional Learning. He has served on various civic boards, as well as the boards of the Effective Schools Institute and Superintendency Institute. In 2000, Dr. Redding conducted a study for LSS of 102 schools in 11 states that were implementing comprehensive school reform. He has worked directly with more than 40 districts in comprehensive school reform, consulting with their administration, training teachers, and establishing systems for tracking student learning data. He holds a doctorate in Educational Administration from Illinois State University, master's degrees in both Psychology and English, and is a graduate of Harvard's Institute for Educational Management.

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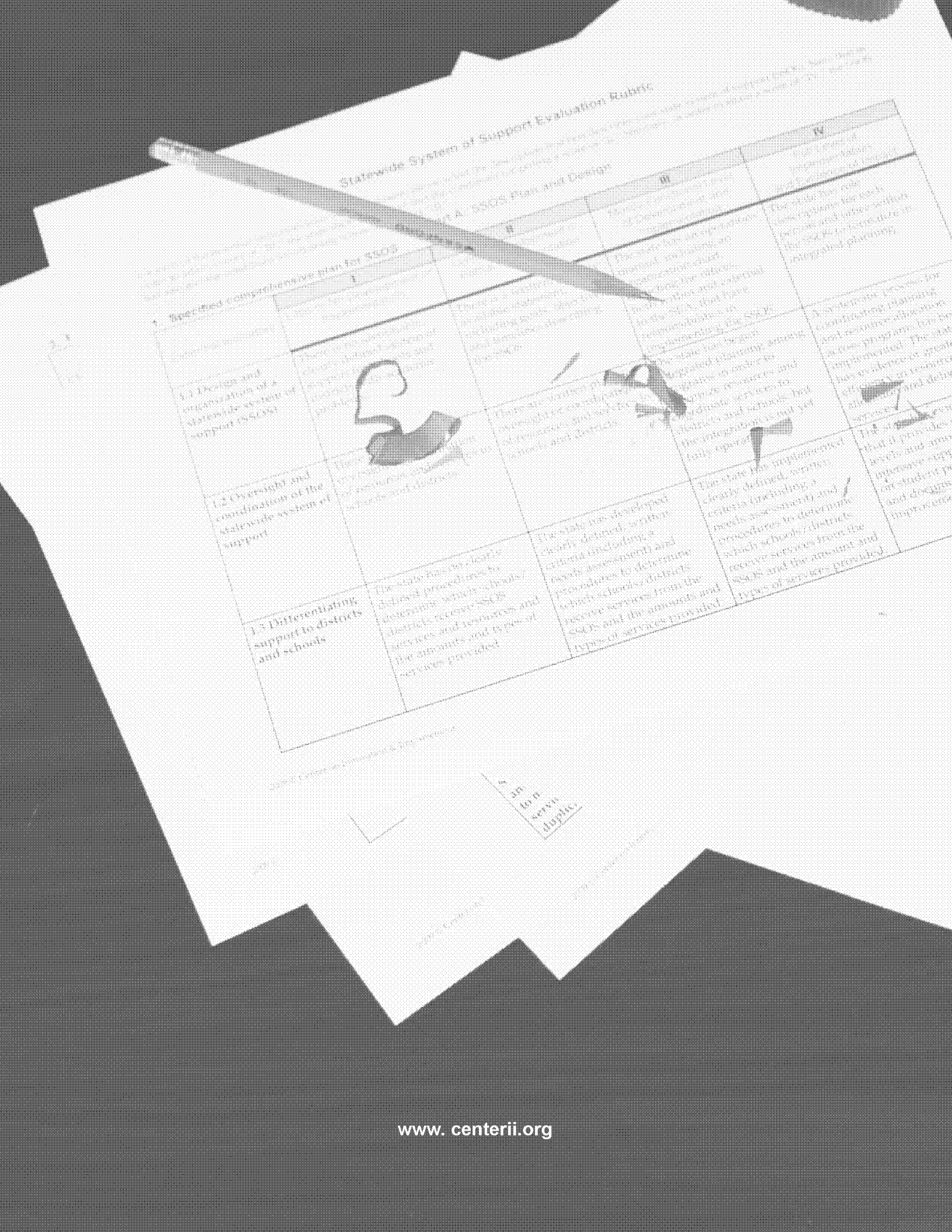

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Missouri Tier I Schools

C/D Code	NCES ID	LEA	Sch Code	NCES ID	School
048078	2916400	Kansas City 33	5250	00866	Richardson Elem.
048905	2900016	Genesis School Inc.	1945	02746	Genesis School Inc.
048907	2900018	Urban Com. Leadership Academy	3915	02745	Urban Com. Leadership Academy
048911	2900011	B. Banneker Academy	6925	02750	B. Banneker Academy
096115	2931590	Wellston	1050	02203	Eskridge High School
096115	2931590	Wellston	4020	02201	Central Elementary
115115	2929280	St. Louis City	1830	02011	Vashon High School
115115	2929280	St. Louis City	3140	01922	Fanning Middle Community Ed.
115115	2929280	St. Louis City	3240	01957	Langston Middle
115115	2929280	St. Louis City	3280	01954	L'Ouverture Middle
115115	2929280	St. Louis City	3400	02066	Stevens Middle Community Ed.
115115	2929280	St. Louis City	4060	01877	Ashland Elem. And Br.
115115	2929280	St. Louis City	4420	02693	Columbia Elem. Comm. Ed. Center
115115	2929280	St. Louis City	4480	01916	Dunbar Elementary
115115	2929280	St. Louis City	4780	01937	Hamilton Elem. Community Ed.
115115	2929280	St. Louis City	5020	01950	Jefferson Elem.
115115	2929280	St. Louis City	5260	01968	Mann Elem.
115115	2929280	St. Louis City	5860	02000	Sigel Elem. Comm. Ed. Center
115115	2929280	St. Louis City	5960	02015	Walbridge Elem. Community Ed.
115904	155904	Ethel Hedgeman Lyle Academy	6920	23832	Ethel Hedgeman Lyle Academy
115905	2900577	Paideia Academy	6925	02854	College Hill Campus

Missouri Tier II Schools

C/D Code	NCES ID	LEA	Sch. Code	NCES ID	School
011082	2927060	St. Joseph	6000	02445	Colgan Alt. Resource Center
048072	2914340	Hickman Mills C-1	2070	00653	Ervin Jr. High
048072	2914340	Hickman Mills C-1	2075	00660	Smith-Hale Jr. High
048078	2916400	Kansas City 33	1200	00840	Central High
048078	2916400	Kansas City 33	1340	00860	Northeast High
048078	2916400	Kansas City 33	1580	00880	East High School
048078	2916400	Kansas City 33	1640	02796	Westport High
048078	2916400	Kansas City 33	3080	02496	K C Middle School Of The Arts
048902	2900029	Alta Vista Charter Sch.	1925	02741	Alta Vista Charter Sch.
078002	2913800	Hayti R-II	1050	00611	Hayti High
078012	2907470	Caruthersville 18	3000	01023	Caruthersville Middle
096088	2913830	Hazelwood	2100	00629	East Middle
096089	2912010	Ferguson-Florissant R-II	1060	02691	McCluer South-Berkeley High
096089	2912010	Ferguson-Florissant R-II	3000	00354	Berkeley Middle
096104	2916290	Jennings	2050	00767	Jennings Jr. High
096109	2922650	Normandy	1050	01248	Normandy High
096109	2922650	Normandy	3000	01244	Normandy Middle
096111	2926670	Riverview Gardens	1050	01586	Riverview Gardens Sr. High
096111	2926670	Riverview Gardens	3000	02539	R. G. Central Middle
096111	2926670	Riverview Gardens	4040	02687	Westview Middle
096115	2931590	Wellston	3000	01565	Bishop Middle School
115115	2929280	St. Louis City	1680	01994	Roosevelt High
115115	2929280	St. Louis City	1800	02009	Sumner High
115115	2929280	St. Louis City	1860	02013	Central Visual/Perf. Arts High
115115	2929280	St. Louis City	2080	02878	Yeatman-Liddell Prep. Jr. High
115115	2929280	St. Louis City	3070	00792	Carr Lane Vpa Middle
115115	2929280	St. Louis City	3110	00287	Bunche International Studies
115115	2929280	St. Louis City	3230	01585	Gateway Middle
115115	2929280	St. Louis City	3260	01960	Long Middle Community Ed. Center
115115	2929280	St. Louis City	3390	01927	Compton-Drew Ilc Middle
115901	2900583	Construction Careers Center	1910	02788	Construction Careers Center
115902	2900574	Lift For Life Academy	3910	02828	Lift For Life Academy

Missouri Tier III Schools

C/D Code	NCES ID	LEA	Sch. Code	NCES ID	School
001091	2916740	Kirksville R-III	4050	00917	Ray Miller Elem.
002097	2927570	Savannah R-III	4010	01688	Amazonia Elem.
004109	2930780	Van-Far R-I	4020	02125	Van-Far Elem.
005120	2931950	Wheaton R-III	4020	02236	Wheaton Elem.
005121	2928710	Southwest R-V	4020	01773	Southwest Elem.
005122	2911670	Exeter R-VI	4020	00426	Exeter Elem.
005123	2908170	Cassville R-IV	4030	02718	Cassville Intermediate
006101	2918510	Liberal R-II	4020	01002	Liberal Elem.
006104	2917850	Lamar R-I	4020	00952	Lamar Elem.
007124	2926310	Rich Hill R-IV	4020	01545	Rich Hill Elem.
007129	2906360	Butler R-V	4020	00157	Butler Elem.
008107	2931070	Warsaw R-IX	4040	02154	South Elem.
010090	2929700	Sturgeon R-V	3000	01392	Sturgeon Middle
010092	2913710	Harrisburg R-VIII	4020	00598	Harrisburg Elem.
010093	2901000	Columbia 93	1020	00281	Frederick Douglass High
010093	2901000	Columbia 93	4020	00313	Thomas Benton Elem.
010093	2901000	Columbia 93	4040	00298	Blue Ridge Elem.
010093	2901000	Columbia 93	4055	02665	Derby Ridge Elem.
010093	2901000	Columbia 93	4080	00302	Eugene Field Elem.
010093	2901000	Columbia 93	5040	00307	Parkade Elem.
010093	2901000	Columbia 93	6020	00316	West Blvd. Elem.
011082	2927060	St. Joseph	4040	01649	Edison Elem.
011082	2927060	St. Joseph	4120	01653	Hall Elem.
011082	2927060	St. Joseph	4380	01666	Noyes Elem.
012108	2921750	Neelyville R-IV	1050	01200	Neelyville High
012108	2921750	Neelyville R-IV	4060	01202	Neelyville Elem.
012109	2925450	Poplar Bluff R-I	4020	01467	Eugene Field Elem.
012109	2925450	Poplar Bluff R-I	4040	01947	Poplar Bluff 5Th & 6Th Center
012109	2925450	Poplar Bluff R-I	5060	01473	O'Neal Elem.
012110	2930520	Twin Rivers R-X	4040	02093	Fisk Elem.
012110	2930520	Twin Rivers R-X	4060	02094	Qulin Elem.
014126	2922740	North Callaway Co. R-I	4020	01252	Auxvasse Elem.
014129	2912550	Fulton 58	4080	00522	McIntire Elem.
014130	2928430	South Callaway Co. R-II	4020	01756	South Callaway Elem.
015002	2906990	Camdenton R-III	4030	02580	Oak Ridge Intermediate
015003	2909810	Climax Springs R-IV	4020	00283	Climax Springs Elem.
015004	2919380	Macks Creek R-V	4020	01048	Macks Creek Elem.
016096	2907120	Cape Girardeau 63	4080	00189	Jefferson Elem.
016096	2907120	Cape Girardeau 63	4090	02798	Central Middle
016097	2907320	Nell Holcomb R-IV	4020	00194	Nell Holcomb Elem.

017124	2905610	Bosworth R-V	4020	00106	Bosworth Elem.
019142	2923730	Raymore-Peculiar R-II	5000	02889	Bridle Ridge Intermediate
019144	2910320	Sherwood Cass R-VIII	4020	00334	Sherwood Elem.
019147	2911160	East Lynne 40	4020	00384	East Lynne Elem.
019149	2913760	Harrisonville R-IX	3000	02659	Harrisonville Middle
019149	2913760	Harrisonville R-IX	4020	00604	Harrisonville Elem.
019152	2904620	Belton 124	1025	00395	Belton-Ozanam Southland Coop.
019152	2904620	Belton 124	4020	00051	Cambridge Elem.
019152	2904620	Belton 124	4050	00054	Scott Elem.
020001	2929520	Stockton R-I	4020	02043	Stockton Elem.
020002	2911310	El Dorado Springs R-II	4040	00400	El Dorado Springs Elem.
021149	2906030	Brunswick R-II	4020	00411	Brunswick Elem.
022090	2928740	Sparta R-III	4020	01775	Sparta Elem.
024093	2922800	North Kansas City 74	1050	01284	North Kansas City High
024093	2922800	North Kansas City 74	1090	01293	Winnetonka High
024093	2922800	North Kansas City 74	3100	01268	Eastgate Middle
024093	2922800	North Kansas City 74	3150	01278	Maple Park Middle
024093	2922800	North Kansas City 74	3200	02730	Northgate Middle
024093	2922800	North Kansas City 74	4320	01274	Gracemor Elem.
024093	2922800	North Kansas City 74	4400	01279	Maplewood Elem.
024093	2922800	North Kansas City 74	4570	01292	West Englewood Elem.
025001	2907020	Cameron R-I	4020	00178	Parkview Elem.
025003	2925290	Clinton Co. R-III	4020	01457	Ellis Elem.
026001	2926970	Cole Co. R-I	4020	01638	Cole Co. R-I Elem.
026005	2911550	Cole Co. R-V	4020	00410	Eugene Elem.
027061	2905580	Boonville R-I	4040	00103	David Barton Elem.
028101	2905640	Crawford Co. R-I	4020	00108	Bourbon Elem.
031118	2915630	North Daviess R-III	4020	00740	North Daviess Elem.
031121	2912660	Gallatin R-V	4020	00529	Covel D. Searcy Elem.
033090	2927090	Salem R-80	4040	01676	Salem Upper Elem.
033094	2910650	North Wood R-IV	4020	00359	North Wood Elem.
034124	2904050	Ava R-I	3000	02548	Ava Middle
035092	2919890	Malden R-I	4020	01056	Malden Lower Elem.
035094	2914460	Holcomb R-III	4020	00677	Holcomb Elem.
035098	2927870	Senath-Hornersville C-8	3000	01714	Hornersville Middle
035102	2916500	Kennett 39	4080	00902	South Elem.
036131	2930570	Union R-XI	4040	02098	Central Elem.
036139	2931110	Washington	4140	02164	South Point Elem.
037039	2914280	Gasconade Co. R-I	3000	02464	Hermann Middle
039133	2932010	Willard R-II	3050	02242	Willard Middle
039135	2903270	Ash Grove R-IV	4020	00027	Ash Grove Elem.
039141	2928860	Springfield R-XII	3100	01813	Pipkin Middle
039141	2928860	Springfield R-XII	3140	01818	Reed Middle
039141	2928860	Springfield R-XII	3160	01827	Study Middle

039141	2928860	Springfield R-XII	4060	01782	Bissett Elem.
039141	2928860	Springfield R-XII	4080	01783	Bowerman Elem.
039141	2928860	Springfield R-XII	4100	01784	Boyd Elem.
039141	2928860	Springfield R-XII	4400	01806	McGregor Elem.
039141	2928860	Springfield R-XII	4760	01833	Weller Elem.
039141	2928860	Springfield R-XII	4780	01834	Westport Elem.
039141	2928860	Springfield R-XII	4820	01837	Williams Elem.
039141	2928860	Springfield R-XII	4840	01838	York Elem.
040107	2930360	Trenton R-IX	4060	02079	Rissler Elem.
041005	2926490	Ridgeway R-V	4020	01558	Ridgeway Elem.
042111	2932110	Henry Co. R-I	4020	02254	Windsor Elem.
042117	2906480	Calhoun R-VIII	4020	00165	Calhoun Elem.
042124	2909860	Clinton	4070	00289	Henry Elem.
043002	2931920	Wheatland R-II	4020	02234	Wheatland Elem.
045077	2911990	Fayette R-III	4040	00446	Laurence J. Daly Elem.
046130	2921540	Mountain View-Birch Tree R-III	4020	01187	Mountain View Elem.
046131	2932070	Willow Springs R-IV	3000	02246	Willow Springs Middle
046131	2932070	Willow Springs R-IV	4040	02249	Willow Springs Elem.
046134	2931680	West Plains R-VII	4030	02543	West Plains Elem.
046140	2911850	Fairview R-XI	4020	00435	Fairview Elem.
047065	2915510	Iron Co. C-4	4050	00730	Viburnum Elem.
048066	2912290	Fort Osage R-I	4020	00489	Blue Hills Elem.
048072	2914340	Hickman Mills C-1	1090	00658	Ruskin High
048072	2914340	Hickman Mills C-1	4010	00651	Burke Elem.
048072	2914340	Hickman Mills C-1	4015	00652	Dobbs Elem.
048072	2914340	Hickman Mills C-1	4020	02595	Johnson Elem.
048072	2914340	Hickman Mills C-1	4025	00662	Symington Elem.
048072	2914340	Hickman Mills C-1	4030	00663	Truman Elem.
048072	2914340	Hickman Mills C-1	4045	00659	Santa Fe Elem.
048072	2914340	Hickman Mills C-1	4050	00655	Ingels Elem.
048073	2926070	Raytown C-2	4060	01518	Eastwood Hills Elem.
048073	2926070	Raytown C-2	4070	01519	Fleetridge Elem.
048073	2926070	Raytown C-2	4080	01520	Laurel Hills Elem.
048073	2926070	Raytown C-2	5000	01521	Norfleet Elem.
048073	2926070	Raytown C-2	5060	01530	Southwood Elem.
048073	2926070	Raytown C-2	5080	01531	Spring Valley Elem.
048073	2926070	Raytown C-2	6000	01532	Westridge Elem.
048074	2913140	Grandview C-4	4080	00550	Conn-West Elem.
048074	2913140	Grandview C-4	5020	00554	Martin City Elem.
048074	2913140	Grandview C-4	5040	00555	Meadowmere Elem.
048077	2913140	Independence 30	6040	00719	Randall Elem.
048077	2913140	Independence 30	6060	00725	William Southern Elem.
048078	2916400	Kansas City 33	1021	03002	Cr Anderson Alt Hs At Fairview
048078	2916400	Kansas City 33	1400	00862	Paseo Acad. Of Performing Arts
048078	2916400	Kansas City 33	1550	00869	Teenage Parents Center
048078	2916400	Kansas City 33	4040	00799	Askew Elem.

048078	2916400	Kansas City 33	4060	00800	Attucks Elem.
048078	2916400	Kansas City 33	4290	02605	Geo. Washington Carver Elem.
048078	2916400	Kansas City 33	4310	02603	Trailwoods Elem.
048078	2916400	Kansas City 33	4330	02375	Rogers Elementary
048078	2916400	Kansas City 33	4350	02376	Foreign Language Academy
048078	2916400	Kansas City 33	4420	00822	Faxon Montessori
048078	2916400	Kansas City 33	4450	00808	C. A. Franklin Elem.
048078	2916400	Kansas City 33	4500	02529	Gladstone Elem.
048078	2916400	Kansas City 33	4700	00837	James Elem.
048078	2916400	Kansas City 33	4760	00888	Wm. A. Knotts Elem.
048078	2916400	Kansas City 33	4860	00825	George B. Longan French Magnet
048078	2916400	Kansas City 33	4880	00848	Longfellow Elem.
048078	2916400	Kansas City 33	5020	00826	George Melcher Elem.
048078	2916400	Kansas City 33	5060	00858	Milton Moore Elem.
048078	2916400	Kansas City 33	5200	00882	Wendell Phillips Elem.
048078	2916400	Kansas City 33	5220	00816	Pinkerton Elementary
048078	2916400	Kansas City 33	5240	00864	Pitcher Elementary
048078	2916400	Kansas City 33	5320	00884	West Rock Creek Elem.
048078	2916400	Kansas City 33	5360	02609	Satchel Paige Elem.
048078	2916400	Kansas City 33	5440	02602	B. Banneker Elem.
048078	2916400	Kansas City 33	5450	02606	Holliday Montessori
048078	2916400	Kansas City 33	5500	00818	Swinney Elementary
048078	2916400	Kansas City 33	5580	00879	Troost Elem.
048078	2916400	Kansas City 33	5630	02530	Primitivo Garcia Elem.
048078	2916400	Kansas City 33	5660	00863	Phillis Wheatley Elem.
048078	2916400	Kansas City 33	5700	00887	Whittier Elem.
048078	2916400	Kansas City 33	5740	00890	Woodland Elem.
048078	2916400	Kansas City 33	6030	00865	R. J. Delano
048080	2908250	Center 58	4020	00223	Boone Elem.
048080	2908250	Center 58	4060	00224	Center Elem.
048080	2908250	Center 58	4080	00228	Red Bridge Elem.
048901	2900027	University Academy	1915	02808	University Academy-Upper
048901	2900027	University Academy	3925	02914	University Academy-Middle
048903	2900012	Don Bosco Education Center	1930	02842	Don Bosco High School
048904	2900014	Hogan Preparatory Academy	1935	02743	Hogan Preparatory Academy
048909	2900025	Allen Village	6915	02748	Allen Village School
048910	2900028	Lee A. Tolbert Com. Academy	6920	02749	Lee A. Tolbert Com. Academy
048912	2900013	Della Lamb Elem.	6930	02751	Della Lamb Elem.
048913	2900015	Gordon Parks Elem.	6935	02752	Gordon Parks Elem.
048915	2900019	Scuola Vita Nuova	6945	02754	Scuola Vita Nuova Charter
048916	2900024	Brookside Charter Sch.	6950	02838	Brookside Charter Sch.
048917	2900026	Derrick Thomas Academy	6955	02839	Derrick Thomas Elem. Academy
049132	2907350	Carl Junction R-I	4060	00196	Carl Junction Intermediate

049142	2907460	Carthage R-IX	4020	00204	Columbian Elem.
049142	2907460	Carthage R-IX	4030	01980	Steadley Elem.
049142	2907460	Carthage R-IX	4060	00206	Fairview Elem.
050001	2922890	Northwest R-I	4080	01306	Maple Grove Elem.
050003	2914430	Hillsboro R-III	4040	00674	Hillsboro Middle Elem.
050005	2914250	Dunklin R-V	3000	02399	Senn-Thomas Middle
050009	2929820	Sunrise R-IX	4020	02060	Sunrise Elem.
050013	2910380	Crystal City 47	4020	00339	Crystal City Elem.
051154	2908320	Johnson Co. R-VII	3000	02406	Crest Ridge Middle
051155	2916830	Knob Noster R-VIII	4020	00931	Knob Noster Elem.
051159	2931020	Warrensburg R-VI	4060	01729	Sterling Elem.
053112	2912720	Gasconade C-4	4020	00533	Gasconade Elem.
053113	2918270	Lebanon R-III	4060	00973	Maplecrest Elem.
053114	2917000	Laclede Co. C-5	4020	00940	Joel E. Barber Elem.
054039	2914400	Lafayette Co. C-1	4020	00669	Grandview Elem.
054041	2923100	Odessa R-VII	4060	01743	Odessa Upper Elem.
054045	2918480	Lexington R-V	3000	01000	Lexington Middle
054045	2918480	Lexington R-V	4040	00998	Leslie Bell Elem.
055104	2921000	Miller R-II	4020	01440	Central Elem.
055106	2920310	Marionville R-IX	4020	01076	Marionville Elem.
055110	2904020	Aurora R-VIII	4040	00033	Robinson Elem.
057001	2928290	Silex R-I	4020	01747	Silex Elem.
057002	2911400	Elsberry R-II	4020	00406	Clarence Cannon Elem.
058112	2905940	Brookfield R-III	4020	00137	Brookfield Elem.
059117	2908760	Chillicothe R-II	3000	02815	Chillicothe Middle
059117	2908760	Chillicothe R-II	4060	00262	Field Elem.
060077	2920610	McDonald Co. R-I	4020	01100	Anderson Elem.
060077	2920610	McDonald Co. R-I	4040	01101	Noel Elem.
060077	2920610	McDonald Co. R-I	4080	01103	Rocky Comfort Elem.
060077	2920610	McDonald Co. R-I	5000	01105	Southwest City Elem.
060077	2920610	McDonald Co. R-I	5020	01106	White Rock Elem.
061156	2919410	Macon Co. R-I	4020	01050	Macon Elem.
062070	2920370	Marquand-Zion R-VI	4020	01079	Marquand Elem.
063066	2930870	Maries Co. R-I	4020	02133	Vienna Elem.
063067	2900001	Maries Co. R-II	3000	02547	Maries Co. Middle
064075	2913650	Hannibal 60	4020	00587	A. D. Stowell Elem.
064075	2913650	Hannibal 60	4060	00589	Eugene Field Elem.
064075	2913650	Hannibal 60	5010	02781	Veterans Elem.
066102	2911340	Eldon R-I	4020	00403	South Elem.
066102	2911340	Eldon R-I	4040	02411	Eldon Upper Elem.
066105	2927630	School Of The Osage	2050	01020	Osage Middle
066107	2915420	Iberia R-V	4020	00702	Iberia Elem.
067055	2911220	East Prairie R-II	4060	00385	A. J. Martin Elem.
067061	2908670	Charleston R-I	3000	01780	Charleston Middle
067061	2908670	Charleston R-I	4040	00255	Warren E. Hearnes Elem.
068070	2906510	Moniteau Co. R-I	4020	00167	California Elem.
070093	2921330	Montgomery Co. R-II	4060	01172	Montgomery City Elem.

071092	2930840	Morgan Co. R-II	4020	02129	Morgan Co. Elem.
072074	2900004	New Madrid Co. R-I	4100	01482	Lilbourn Elem.
072074	2900004	New Madrid Co. R-I	4140	01484	New Madrid Elem.
073099	2930420	East Newton Co. R-VI	4020	02083	Granby Elem.
073099	2930420	East Newton Co. R-VI	4040	02085	Triway Elem.
073108	2921810	Neosho R-V	4020	01203	Benton Elem.
073108	2921810	Neosho R-V	4080	01206	Goodman Elem.
077101	2904140	Bakersfield R-IV	1050	00040	Bakersfield High
078002	2913800	Hayti R-II	4020	00610	Wallace Elem.
078003	2923790	Pemiscot Co. R-III	4020	01436	Pemiscot Co. R-III Elem.
078005	2928530	South Pemiscot Co. R-V	4020	02670	South Pemiscot Elem.
078012	2907470	Caruthersville 18	4060	00216	Caruthersville Elem.
079077	2924530	Perry Co. 32	4020	02386	Perryville Elem.
080118	2916920	La Monte R-IV	4020	00936	La Monte Elem.
080125	2927830	Sedalia 200	4020	01703	Heber Hunt Elem.
081095	2922140	Newburg R-II	4020	01228	Newburg Elem.
081096	2926890	Rolla 31	3000	01635	Rolla Middle
082108	2919260	Louisiana R-II	4040	01042	Louisiana Elem.
083003	2925230	Platte Co. R-III	3000	01455	Platte City Middle
083003	2925230	Platte Co. R-III	4010	01451	Barry Sch.
083005	2923550	Park Hill	3050	01369	Plaza Middle
083005	2923550	Park Hill	6000	02537	Park Hill Day Sch.
084001	2905370	Bolivar R-I	4040	01535	Bolivar Intermediate Sch.
084005	2920160	Marion C. Early R-V	4020	01072	Marion C. Early Elem.
085043	2929850	Swedeborg R-III	4020	02061	Swedeborg Elem.
085044	2926430	Richland R-IV	4020	01550	Richland Elem.
085045	2917880	Laquey R-V	4020	00956	Laquey R-V Elem.
085046	2931440	Waynesville R-VI	4080	02174	Pick Elem.
088075	2914370	Higbee R-VIII	4020	00666	Higbee Elem.
088081	2921100	Moberly	4020	02820	Gratz Brown Elem.
089080	2918220	Lawson R-XIV	4040	00964	Southwest Elem.
089087	2923220	Orrick R-XI	1050	01336	Orrick High
089087	2923220	Orrick R-XI	4020	01335	Orrick Elem.
090076	2928590	Southern Reynolds Co. R-II	4020	01767	Southern Elem.
091092	2910920	Doniphan R-I	3000	02586	Doniphan Middle
091092	2910920	Doniphan R-I	4020	00371	Doniphan Elem.
091093	2926580	Ripley Co. R-IV	4040	01561	Ripley Co. Elem.
092087	2908370	Ft. Zumwalt R-II	4020	00234	Forest Park Elem.
092087	2908370	Ft. Zumwalt R-II	4030	00236	Lewis & Clark Elem.
092087	2908370	Ft. Zumwalt R-II	4080	02369	Hawthorn Elem.
092087	2908370	Ft. Zumwalt R-II	4090	02492	Dardenne Elem.
092089	2931650	Wentzville R-IV	4080	02870	Prairie View Elem.
092090	2928920	St. Charles R-VI	4045	01844	Coverdell Elem.
092090	2928920	St. Charles R-VI	4120	01846	Monroe Elem.

092091	2923160	Orchard Farm R-V	4020	01329	Orchard Farm Elem.
093123	2910520	Lakeland R-III	4020	02520	Lakeland Elem.
094083	2905430	North St. Francois Co. R-I	4030	00095	Intermediate Sch.
094083	2905430	North St. Francois Co. R-I	4040	00096	North County Parkside Elem.
095059	2929370	Ste. Genevieve Co. R-II	2050	02032	Ste. Genevieve Middle
095059	2929370	Ste. Genevieve Co. R-II	4040	02034	Ste. Genevieve Elem.
096088	2913830	Hazelwood	1060	02696	Hazelwood East High
096088	2913830	Hazelwood	4020	00614	Keeven Elem.
096088	2913830	Hazelwood	4150	00621	Grannemann Elem.
096088	2913830	Hazelwood	4160	00628	Jury Elem.
096088	2913830	Hazelwood	4180	00630	Larimore Elem.
096088	2913830	Hazelwood	4250	00635	Townsend Elem.
096088	2913830	Hazelwood	4260	00636	Twillman Elem.
096088	2913830	Hazelwood	4340	02858	Arrowpoint Elem.
096089	2912010	Ferguson-Florissant R-II	3050	00462	Ferguson Middle
096089	2912010	Ferguson-Florissant R-II	4010	00449	Airport Elem.
096089	2912010	Ferguson-Florissant R-II	4100	00457	Cool Valley Elem.
096089	2912010	Ferguson-Florissant R-II	4140	00460	Duchesne Elem.
096089	2912010	Ferguson-Florissant R-II	4160	00466	Griffith Elem.
096089	2912010	Ferguson-Florissant R-II	4180	00467	Halls Ferry Elem.
096089	2912010	Ferguson-Florissant R-II	4190	00468	Holman Elem.
096089	2912010	Ferguson-Florissant R-II	4200	00469	Lee Hamilton Elem.
096089	2912010	Ferguson-Florissant R-II	4210	02784	Johnson Wabash Elem.
096089	2912010	Ferguson-Florissant R-II	4280	01092	Vogt Elem.
096089	2912010	Ferguson-Florissant R-II	4320	00477	Walnut Grove Elem.
096090	2923700	Pattonville R-III	4020	01411	Briar Crest Elem.
096091	2926850	Rockwood R-VI	4020	01614	Ballwin Elem.
096092	2916770	Kirkwood R-VII	5000	00927	W. W. Keysor Elem.
096092	2916770	Kirkwood R-VII	5020	00924	North Glendale Elem.
096094	2920670	Mehlville R-IX	4060	01111	Bierbaum Elem.
096095	2923580	Parkway C-2	4035	01377	Carman Trails Elem.
096095	2923580	Parkway C-2	4060	01382	Craig Elem.
096095	2923580	Parkway C-2	4110	01386	Hanna Woods Elem.
096095	2923580	Parkway C-2	4180	01391	McKelvey Elem.
096095	2923580	Parkway C-2	4200	01395	Pierremont Elem.

096095	2923580	Parkway C-2	4210	01396	River Bend Elem.
096095	2923580	Parkway C-2	4235	01400	Sorrento Springs Elem.
096098	2902910	Affton 101	3000	02461	Rogers Middle
096098	2902910	Affton 101	4080	00005	Gotsch Intermediate Sch.
096099	2904500	Bayless	4040	00045	Bayless Intermediate
096103	2913620	Hancock Place	4020	00584	Hancock Place Elem.
096104	2916290	Jennings	4020	00766	Fairview Primary
096104	2916290	Jennings	4040	00768	Northview Elem.
096104	2916290	Jennings	4050	02763	Gary Gore Elem.
096104	2916290	Jennings	4070	02786	Kenneth C. Hanrahan Elem.
096109	2922650	Normandy	4020	01240	Bel-Nor Elem.
096109	2922650	Normandy	4040	01239	Bel-Ridge Elem.
096109	2922650	Normandy	4060	01241	Garfield Elem.
096109	2922650	Normandy	4100	01243	Jefferson Elem.
096109	2922650	Normandy	4145	02850	Lucas Crossing Elem. Complex
096109	2922650	Normandy	4150	01247	Pine Lawn Elem.
096109	2922650	Normandy	4160	01249	Washington Elem.
096110	2926640	Ritenour	4100	01568	Iveland Elem.
096110	2926640	Ritenour	4120	01569	Kratz Elem.
096110	2926640	Ritenour	4160	01571	Marvin Elem.
096110	2926640	Ritenour	4220	01575	Wyland Elem.
096111	2926670	Riverview Gardens	4020	01577	Danforth Elem.
096111	2926670	Riverview Gardens	4050	00726	Gibson Elem.
096111	2926670	Riverview Gardens	4060	01579	Glasgow Elem.
096111	2926670	Riverview Gardens	4080	02627	Highland Elem.
096111	2926670	Riverview Gardens	5000	01582	Lemasters Elem.
096111	2926670	Riverview Gardens	5020	01583	Lewis And Clark Elem.
096111	2926670	Riverview Gardens	5040	01584	Meadows Elem.
096111	2926670	Riverview Gardens	6020	01581	Koch Elem.
096111	2926670	Riverview Gardens	6040	02701	Moline Elem.
096112	2930660	University City	1050	02113	University City Sr. High
096112	2930660	University City	2000	02511	Brittany Woods
096112	2930660	University City	4060	02105	Barbara Jordan Elem.
096112	2930660	University City	4100	02107	Flynn Park Elem.
096112	2930660	University City	4140	02109	Jackson Park Elem.
096113	02930690	Valley Park	4020	021115	Valley Park Elem.
096114	2931530	Webster Groves	4020	02190	Avery Elem.
096114	2931530	Webster Groves	4040	02191	Bristol Elem.
096114	2931530	Webster Groves	4180	02195	Steger Sixth Grade Center
097119	2919920	Malta Bend R-V	4020	01059	Malta Bend Elem.
097127	2912840	Gilliam C-4	4020	00536	Gilliam Elem.
097129	2920410	Marshall	4060	01084	Eastwood Elem.
097129	2920410	Marshall	4080	01085	Northwest Elem.
097130	2928360	Slater	4020	01749	Alexander Elem.
098080	2927660	Schuyler Co. R-I	4020	01698	Schuyler Co. Elem.
100059	2915450	Scott City R-I	4020	00704	Scott City Elem.
100062	2921420	Scott Co. Central	1050	01177	Scott Co. Central High

100062	2921420	Scott Co. Central	4020	01176	Scott Co. Central Elem.
100063	2928260	Sikeston R-6	4040	01739	Lee Hunter Elem.
100063	2928260	Sikeston R-6	4050	01566	Matthews Elem.
100063	2928260	Sikeston R-6	4060	01740	Morehouse Elem.
100063	2928260	Sikeston R-6	4070	01742	Southeast Elem.
101107	2911450	Eminence R-I	4020	00408	Eminence Elem.
102085	2928110	Shelby Co. R-IV	4040	01726	Shelbina Elem.
103131	2905250	Bloomfield R-XIV	1050	00073	Bloomfield High
104042	2912630	Galena R-II	4020	00527	Galena-Abesville Elem.
104043	2910290	Crane R-III	3000	02148	Crane Middle
104044	2926160	Reeds Spring R-IV	4030	03034	Reeds Spring Elem.
105124	2920940	Milan C-2	4020	01143	Milan Elem.
106003	2912240	Forsyth R-III	3000	00789	Forsyth Middle
107155	2906430	Cabool R-IV	4020	00160	Cabool Elem.
108142	2921840	Nevada R-V	1030	02707	Heartland R-V Sch.
108142	2921840	Nevada R-V	4080	01122	Truman Elem.
109002	2932310	Wright City R-II	4020	02265	Wright City Elem.
109003	2931050	Warren Co. R-III	4040	02416	Rebecca Boone Elem.
111087	2909750	Clearwater R-I	3000	01904	Clearwater Middle
111087	2909750	Clearwater R-I	4040	00280	Clearwater Elem.
112103	2927930	Seymour R-II	4020	01720	Seymour Elem.
114114	2921510	Mountain Grove R-III	4020	01181	Mountain Grove Elem.
115115	2929280	St. Louis City	1222	01926	Community Access Job Training
115115	2929280	St. Louis City	1250	01882	Beaumont High
115115	2929280	St. Louis City	2080	02878	Yeatman-Liddell Prep. Jr. High
115115	2929280	St. Louis City	3050	02569	Busch/Academic-Athletic Acad.
115115	2929280	St. Louis City	4000	02789	Adams Elem.
115115	2929280	St. Louis City	4180	01888	Bryan Hill Elem.
115115	2929280	St. Louis City	4200	01889	Buder Elem.
115115	2929280	St. Louis City	4250	02570	Ames Visual/Perf. Arts
115115	2929280	St. Louis City	4360	01903	Clay Elem.
115115	2929280	St. Louis City	4400	01906	Cole Elementary
115115	2929280	St. Louis City	4440	01911	Cote Brilliante Elem.
115115	2929280	St. Louis City	4470	02641	Dewey Sch.-Internat'L. Studies
115115	2929280	St. Louis City	4580	01923	Farragut Elem.
115115	2929280	St. Louis City	4630	02571	Ford-Ford Br. Elem. Comm. Ed.
115115	2929280	St. Louis City	4660	01928	Froebel Elem.
115115	2929280	St. Louis City	4720	01929	Gallaudet Sch. For Deaf Elem.
115115	2929280	St. Louis City	4730	01587	Gateway Elem.
115115	2929280	St. Louis City	4880	01942	Henry Elementary
115115	2929280	St. Louis City	4890	00444	Hickey Elem.
115115	2929280	St. Louis City	5060	01955	Laclede Elem.
115115	2929280	St. Louis City	5100	01958	Lexington Elem.
115115	2929280	St. Louis City	5180	02403	Lyon At Blow Elem.
115115	2929280	St. Louis City	5240	01967	Mallinckrodt A.B.I. Elem.
115115	2929280	St. Louis City	5340	01930	Mason Elem.
115115	2929280	St. Louis City	5500	01975	Meramec Elem.

115115	2929280	St. Louis City	5520	01917	Elias Michael Elem.
115115	2929280	St. Louis City	5560	02790	Monroe Elem.
115115	2929280	St. Louis City	5590	00798	Mullanphy Botanical Gardens
115115	2929280	St. Louis City	5600	01986	Oak Hill Elem.
115115	2929280	St. Louis City	5610	02853	Earl Nance, Sr. Elem.
115115	2929280	St. Louis City	5620	02454	Peabody Elem.
115115	2929280	St. Louis City	5780	02404	Shaw Visual/Perf. Arts Center
115115	2929280	St. Louis City	5800	01997	Shenandoah Elem.
115115	2929280	St. Louis City	5840	01999	Sherman Elem. Comm. Ed. Center
115115	2929280	St. Louis City	5970	02829	Woerner Elem.
115115	2929280	St. Louis City	6010	02572	Washington Montessori
115115	2929280	St. Louis City	6120	02026	Woodward Elem.
115902	2929280	Lift For Life Academy	3910	02828	Lift For Life Academy
115903	2900576	St. Louis Charter School	6915	02831	St. Louis Charter Sch.
115906	2900579	Confluence Academies	6930	03037	Old North

Schools Eligible for School Improvement Grants (SIG)
2009-2010

Missouri Tier I Schools

School	LEA
Ashland Elementary	St. Louis City
B. Banneker Academy	B. Banneker Academy
Central Elementary	Wellston
Columbia Elementary Community Education Center	St. Louis City
Dunbar Elementary	St. Louis City
Eskridge High School	Wellston
Ethel Hedgeman Lyle Academy	Ethel Hedgeman Lyle Academy
Fanning Middle Community Education	St. Louis City
Genesis School Inc.	Genesis School Inc.
Hamilton Elementary Community Education	St. Louis City
Jefferson Elementary	St. Louis City
Langston Middle	St. Louis City
L'Ouverture Middle	St. Louis City
Mann Elementary	St. Louis City
Paideia Academy	College Hill Campus
Richardson Elementary	Kansas City 33
Sigel Elementary Community Education Center	St. Louis City
Stevens Middle Community Education	St. Louis City
Urban Com. Leadership Academy	Urban Com. Leadership Academy
Vashon High School	St. Louis City
Walbridge Elementary Community Education	St. Louis City

Missouri Tier II Schools

School	LEA
Alta Vista Charter School	Alta Vista Charter School
Berkeley Middle	Ferguson-Florissant R-II
Bishop Middle	Wellston
Bunche International Studies	St. Louis City
Carr Lane Visual and Performing Arts Middle	St. Louis City
Caruthersville Middle	Caruthersville 18
Central High	Kansas City 33
Central Visual and Performing Arts High	St. Louis City
Colgan Alternative Resource Center	St. Joseph
Construction Careers Center	Construction Careers Center
East High School	Kansas City 33
East Middle	Hazelwood
Ervin Jr. High	Hickman Mills C-I
Gateway Middle	St. Louis City
Hayti High	Hayti R-II
Jennings Jr. High	Jennings
K C Middle School Of The Arts	Kansas City 33
Lift For Life Academy	Lift For Life Academy
Long Middle Community Education Center	St. Louis City
McCluer South-Berkeley High	Ferguson-Florissant R-II

Normandy High	Normandy
Normandy Middle	Normandy
Northeast High	Kansas City 33
R. G. Central Middle	Riverview Gardens
Riverview Gardens Sr. High	Riverview Gardens
Roosevelt High	St. Louis City
Smith-Hale Jr. High	Hickman Mills C-I
Sumner High	St. Louis City
Westport High	Kansas City 33
Westview Middle	Riverview Gardens
Yeatman-Liddell Prep. Jr. High	St. Louis City

Missouri Constitution

Article IX
EDUCATION
Section 3(b)

August 28, 2009

Deficiency in provision for eight-month school year--allotment of state revenue for school purposes.

Section 3(b). In event the public school fund provided and set apart by law for the support of free public schools, shall be insufficient to sustain free schools at least eight months in every year in each school district of the state, the general assembly may provide for such deficiency; but in no case shall there be set apart less than twenty-five percent of the state revenue, exclusive of interest and sinking fund, to be applied annually to the support of the free public schools.

Source: Const. of 1875, Art. XI, § 7.

(1998) Money sent from federal government to state for federal purposes is not state revenue. Committee for Educational Equality v. State, 967 S.W.2d 62 (Mo.banc).

Charter Schools in Missouri: Student Achievement and Best Practices

A Report Presented to the General Assembly
By the Joint Committee on Education

January 2010

Joint Committee on Education

Rm. 502, State Capitol Building
Jefferson City, MO 65101
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Senator Jane Cunningham	Representative Joe Aull
Senator Rita Heard Days	Representative Rachel Bringer
Senator Joe Keaveny	Representative Jason Holsman
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Senator Kurt Schaefer	Representative Mike Lair
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Executive Summary

The following study of charter schools in Missouri was conducted pursuant to RSMo. Section 160.410.4. The two primary components of the study are the evaluation of student achievement gains and a review of administrative and instructional best practices.

A comparative analysis of student achievement gains from 2006 to 2009 showed variation in performance between students in Kansas City Missouri School District (KCMSD) and St. Louis Public Schools (SLPS) and students in the charter schools in each of those cities. School effects were evaluated using a value-added model. In both Kansas City and St. Louis there were charter schools with achievement gains greater than, equal to, or less than their respective district averages as well as the state average.

In addition, seven of eight secondary charter schools reported graduation rates higher than the graduation rates of the traditional public school district in their city.

In the next section of the study, administrator and teacher interviews supplied the data which addressed administrative and instructional best practices. Across all of the interviews, autonomy, finances, and school culture were pervasive themes.

Administrators and teachers spoke favorably of their ability for autonomous decision making and the freedom to make decisions independent from review at a district level. While there is no district-level accountability for charter schools, some administrators in charter schools managed by Education Management Organizations (EMOs) have less autonomy than other charter school leaders. Teachers also said they felt they had more autonomy primarily in terms of flexibility in their teaching. Throughout all the interviews, administrators and teachers spoke of the culture within their schools and most noted it as one of the strengths of their school.

Administrators indicated that their greatest challenge and what they most wish they could change is funding. They mentioned a number of specific concerns from offering competitive teacher salaries to purchasing or expanding facilities.

The diversity among charter schools and traditional public schools does not provide evidence to allow a confident or accurate assertion that one type of school consistently outperforms the other.

Table of Contents

Section 1	Academic Achievement	1
	Part A – Academic Achievement Growth	1
	Introduction	2
	Data	2
	Analytical Framework	2
	Value-added Models	2
	Limitations	4
	Estimates	5
	References	7
	Part B – Graduation Rates	21
Section 2	Administrative and Instructional Best Practices	22
	Part A – Administrator Interviews	22
	Part B – Teacher Focus Groups	24
	Part C – Other Charter School Features	26
Appendix A	List of Missouri Charter Schools	27
Appendix B	Attendance Rates and Reenrollment Rates	28
Appendix C	Data Preparation Procedures (Section 1A)	30
Appendix D	Regression Coefficients and Related Statistical Elements	32
Appendix E	Teacher Focus Group Characteristics	33
Appendix F	Other Recent Reports or Studies that Include Missouri Charter Schools	34
Appendix G	Survey Data Supplied by Charter Schools	

List of Figures

1. Standardized School Effects on Math MAP Performance by FRL Status (St. Louis)..... 8

2. Standardized School Effects on Math MAP Performance by Percent Minority (St. Louis)..... 9

3. Standardized School Effects on Math MAP Performance Rank Ordered (St. Louis)..... 10

4. Standardized School Effects on Communication Arts MAP Performance by FRL Status (St. Louis)..... 11

5. Standardized School Effects on Communication Arts MAP Performance by Percent Minority (St. Louis)..... 12

6. Standardized School Effects on Communication Arts MAP Performance Rank Ordered (St. Louis)..... 13

7. Standardized School Effects on Math MAP Performance by FRL Status (Kansas City)..... 14

8. Standardized School Effects on Math MAP Performance by Percent Minority (Kansas City)..... 15

9. Standardized School Effects on Math MAP Performance Rank Ordered (Kansas City)..... 16

10. Standardized School Effects on Communication Arts MAP Performance by FRL Status (Kansas City)..... 17

11. Standardized School Effects on Communication Arts MAP Performance by Percent Minority (Kansas City)..... 18

12. Standardized School Effects on Communication Arts MAP Performance Rank Ordered (Kansas City)..... 19

13. Difference in Standardized School Effects..... 20

14. Charter School Graduation Rates 2008-2009..... 21

Section 1 – Academic Achievement

Charter schools have been in operation in Missouri since the 1999-2000 academic year. Currently, in Kansas City 20 charters operate on 27 campuses, and in St. Louis 13 charters operate on 22 campuses[1]. The analysis of academic achievement gains and reporting of graduation rates that follows does not include the six charter schools that opened in 2009-2010.

Part A – Academic Achievement Growth

Analysis was conducted by the Missouri P20 Education Policy Research Center[2].

This section provides an analysis of achievement growth of charter school students relative to achievement growth of students in traditional public schools in the districts where charter schools are located as well as students across all Missouri public schools.

Value-added Estimates of Charter and Non-charter Public Schools in St. Louis and Kansas City

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Introduction

During the 2005-06 school year, DESE implemented a new system for assigning unique identifiers to all public school students (MOSIS) and began requiring schools to administer the MAP mathematics and communication arts exams to all students in grades three through eight. These changes make it possible to measure a student's achievement growth over time. With the administration of the spring 2009 MAP exams, Missouri now has linkable test scores for four consecutive years.

This study uses longitudinal MAP student achievement data from spring 2006 to spring 2009 to compute value-added estimates of charter versus non-charter schools in St. Louis and Kansas City. This study is limited to schools with students tested in grades 3-8.

[1] Source: Missouri Department of Elementary and Secondary Education.
[2] University of Missouri, Truman School of Public Affairs, http://truman.missouri.edu/P20/.

- In Kansas City charter schools on average had larger learning gains in both math and communication arts than did the non-charter (traditional) schools in the district
- In St. Louis charter schools had math achievement gains that were not significantly different from non-charter schools in the district. In communication arts, charter school gains were significantly less than non-charter schools.
- These overall averages mask variation in the charter school sector. In both cities there are some charter schools that perform significantly above non-charters in the district. There are also some charters that performance significantly below.

These are initial estimates based on the new longitudinal student data system in Missouri (MOSIS). Data on student achievement growth, even when aggregated to the school level, have considerable measurement error, and may exhibit some instability from year to year. As this data system matures, and more years of data can be averaged, the reliability of estimates of value-added for any school will improve.

Data

We retrieved MAP score records for the 2006, 2007, 2008, and 2009 testing cycles from the Office of Social and Economic Data Analysis (OSEDA) and removed records assigned to "non-regular" school districts. We conducted several data checking processes to identify and remove test records with duplicate and/or invalid student identifiers before linking records and calculating gain scores. We also examined the grade levels on pairs of matched test records to identify instances where students took the same grade level exam in consecutive years. Those records are excluded from descriptive statistics and analysis. Appendix C contains a detailed description of the specific data preparation steps we completed with corresponding numbers of MAP test records removed for various reasons.

Analytical Framework

Value-added models

Our goal was to compare the performance of charter schools to traditional public schools in St. Louis and Kansas City. We do this by estimating a value-added model (VAM) for all of the schools in the state and then examining the estimated school effects for charter and non-charter schools in the two districts.

An important feature of VAM models is their focus on student achievement growth. School effectiveness is measured by the gains in student achievement they produce for a typical student.

The models we estimate are presented in simplified form below:

Gain Score = X*B1 + (school effects) + e (1)

Two versions of the model are estimated – one for math and one for communication arts. The dependent variable is a gain score for an individual student, which is simply the spring-to-spring change in a student's communication arts or math MAP scores. X is a set of control variables (discussed in more detail below), and B1 is a vector of coefficients that indicates how each control is associated with test score gains. School effects are a set of binary indicator variables, where the indicator for the school in which the student was MAP tested in the given year and grade is set to one, and all other school indicators are set to zero. In our model there are roughly 1700 of these school variables. Finally, "e" is a residual that captures measurement error and other omitted factors that affect a student's gain score that are not included in the model.

The model is fitted to the data using Ordinary Least Squares (OLS) methods. The standard errors are computed in a way that takes account of clustering of student and school observations (i.e., there are multiple observations of the same student, and students within schools). Because we estimate the school effects from a model that predicts individual student scores, each school-effect estimate can be interpreted as capturing the average deviation from predicted student performance at that school. For example, a large positive number suggests that a school's students, on average, are doing better than would otherwise be predicted based on prior performance and the other controls in our model (see below).

The school effects that we report are adjusted so that the average school effect is zero statewide. Thus if a school has a significant positive value, it means that it performs better than the average school in the state, and vice versa for a negative value.

The X*B1 term can be thought of as a filter or an adjustment factor. The idea is to standardize or "control for" various student factors when comparing schools. There are three sets of variables included in X.

- Grade and year indicators
- Prior year student test scores
- Student characteristics

The grade and year indicators simply allow for the fact that the state-wide average gain scores of students are not the same from one grade to the next, and that the gain scores are not entirely stable from year to year. Including these variables has the effect of homogenizing the composition of the student body by grade and year in comparing one school to another (Ehlert, et.al., 2009).

The prior year test scores are a crucial element in the model. Although the dependent variable is a gain score, in fact, the gains a student can expect to make are also a function of the prior level of achievement in both subjects. We include the math and communication arts test scores from the prior year in the model, as well as the square of both of these scores (to capture non-linearity of these effects). They are consistently significant.

Finally, we include a set of student characteristics. These include variables indicating whether the student was in the school less than a full school year (mobile student), free and reduced price lunch eligibility status, English language learner status (LEP), special education status, and indicators for the gender and race of the student.

The estimated coefficients (B1) are presented in Appendix D. Above we noted that X*B1 can be thought of as a filter or adjustment. Our primary focus is in estimating school effects. X*B1 can be thought of a factor that homogenizes the composition of the student body in comparing schools. Alternatively, X*B1 can be thought of as a set of variables that "forecast" a student's gain score. If students in school A on average do better than what we would forecast based on X*B1 then school A will have a positive effect. If students in school A do worse than forecast by X*B1 then that school has a negative effect.

Limitations

These estimates, while informative, should be not be taken as a definitive estimate of the effect of charter schools. There are a number of reasons for caution. The first concerns what researchers call "selection bias." While we have controlled for prior test scores in both communication arts and math, and for a variety of characteristics of students, it may be that there are other factors about students that systematically differ between those who attend a charter school and those who attend traditional public schools. For example, some charter schools are explicitly targeted to "at risk" students. Presumably, these are students with risk factors that may not be fully captured in lagged test scores and other student covariates. These may be students with exceptionally difficult home situations (e.g., homelessness, abuse). The estimates we present may not fully adjust for these risk factors.[3]

[3] This has led some researchers to use data that approximates "natural experiments" for charter school studies. Hoxby and Muraka (2009) and Abdulkadiroglu (2009) in studies of charter schools in New York City and Boston use

A second limitation concerns duration of exposure. These estimates of school effects are based on one year gain-scores for students. If the effects of charter schools are small but accumulate over time, or require some period of time to begin to take effect, these one-year effects may underestimate the true effect of charter schools. In spite of the fact that the MOSIS system has been in place for several years, it is not at present possible to provide charter school estimates that take account of the length of exposure of the student to the charter school. This will be possible in future studies, however.

Finally, we are only able to examine charter schools enrolling students in grades 3-8 (the MAP tested years). We could not examine the effect of charter schools in earlier grades, since there is no state-wide assessment given in those grades. However, the new End of Course (EoC) assessments were introduced in Spring 2009. In future years we will be able to undertake value-added estimates in high schools.

Estimates

Figures 1-3[4] report charter school effects in math in St. Louis. Note that these charter and non-charter school effects are nested in a larger model of student gains for all Missouri schools. In Figures 1 and 2 we report school effects for all Missouri public schools with at least 20 MAP scores over the period 2006-2009. Each dot represents an estimated school effect; 1762 school effects are presented. [5]

We have transformed the effects estimated in the model into standard deviations and normalized them so that a school that produces the average gain has a school effect of zero. A school with a positive effect produced student achievement gains that were larger than expected given the background of the students and prior achievement scores, and vice-versa for a negative score. Along the horizontal axis we present the level of student poverty or the percent minority enrollment in the school.

In Figures 1 and 2 we have highlighted all of the St. Louis schools. The St. Louis non-charter schools are shown in green. Dark green dots are significantly

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data on queues of students applying for charter schools. These schools are oversubscribed and by law students are admitted based on lotteries, thus creating the potential for a randomized study. They compare achievement gains for students lotteried in with those who are not admitted. Both studies find large positive effects of charter schools on student achievement. Unfortunately, we do not have data on waiting lists for St. Louis and Kansas City. A research institute at Stanford University (CREDO) produced aggregated charter school estimates for 17 states using data from 2006-2008. We have not attempted to replicate their methodology or estimates, but their findings are broadly consistent with this ours. For a survey of research on charter schools see Jansen and Gronberg (2009).

[4] All figures referenced in this section can be found on pages 8-20.

[5] Each school with 21 or more MAP scores is treated as a separate school. Some charter schools operate multiple campuses. If they meet the former criteria they are treated as separate schools in this analysis.

above or below the state average. In the case of light green dots, the school effect is not significantly different from the state average. The same convention holds for charter schools (red). Dark red dots denote schools significantly above or below the state average.

In math, of the 13 charter schools for which we had more than 20 MAP gain scores, in 8 of thirteen cases the charters scored significantly below the state average.

Figures 1 and 2 compare St. Louis charter (and non-charter) schools to the state average. In Figure 3 we test an alternative hypothesis by comparing St. Louis charter schools to the average non-charter public school. The average school effect in the St. Louis non-charter schools was -.13 standard deviations. Using this as a comparison benchmark, five of the 13 charter schools scored above the district average and one was insignificantly different.

Figures 4-6 provide similar estimates for Communications Arts. Of the 13 charter schools, one is significantly above the state average, and three are not significantly different. If we restrict the comparison just to St. Louis schools, two charters are above the St. Louis average, five insignificantly different, and six are significantly below.

Figures 7-9 provide Math MAP estimates for Kansas City. In Kansas City there are 19 charter schools with grade 3-8 MAP scores. Five of these are significantly above the state average, five are statistically indistinguishable from the state average, and nine are significantly below the state average (Figures 7 and 8). If we use the Kansas City schools as the comparison group, six charters are significantly above the Kansas City average, five are at the average, and eight are significantly below the average (Figure 9).

Figures 10-12 present Communications Arts estimates for Kansas City. Of the 19 charter schools, four are significantly above, six are significantly below, and nine are not significantly different from the state average. When we switch to Kansas City non-charters as our benchmark, seven charters are above the Kansas City average, nine are not significantly different, and three are below the non-charter average.

Finally, Figure 13 provides a comparison of charters as a group with non-charters as a group in both cities. In both cases, the comparison is with non-charters in the same city. In Kansas City, we find charter schools outperforming non-charters on both math and communication arts. The charter-non-charter difference is .05 and .04 standard deviations, respectively, in math and communication arts. In St. Louis, there is no significant difference between charters and non-charters in math. In communication arts, the average gain is .03 higher in the non-charter schools.

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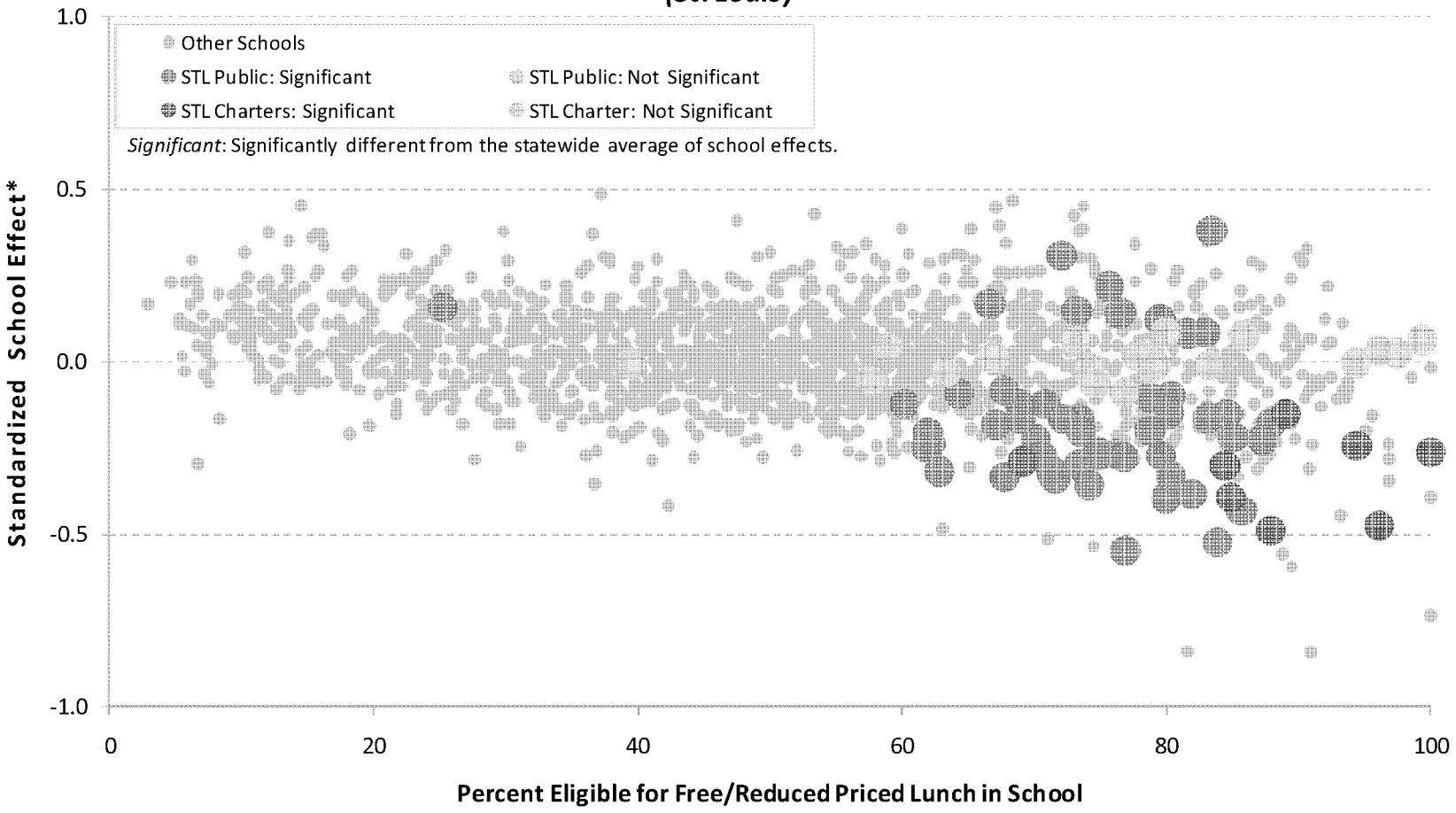
Figure 1. Standardized School Effects on MAP Math Performance

vs. Percent Eligible for Free/Reduced Priced Lunch

(St. Louis)

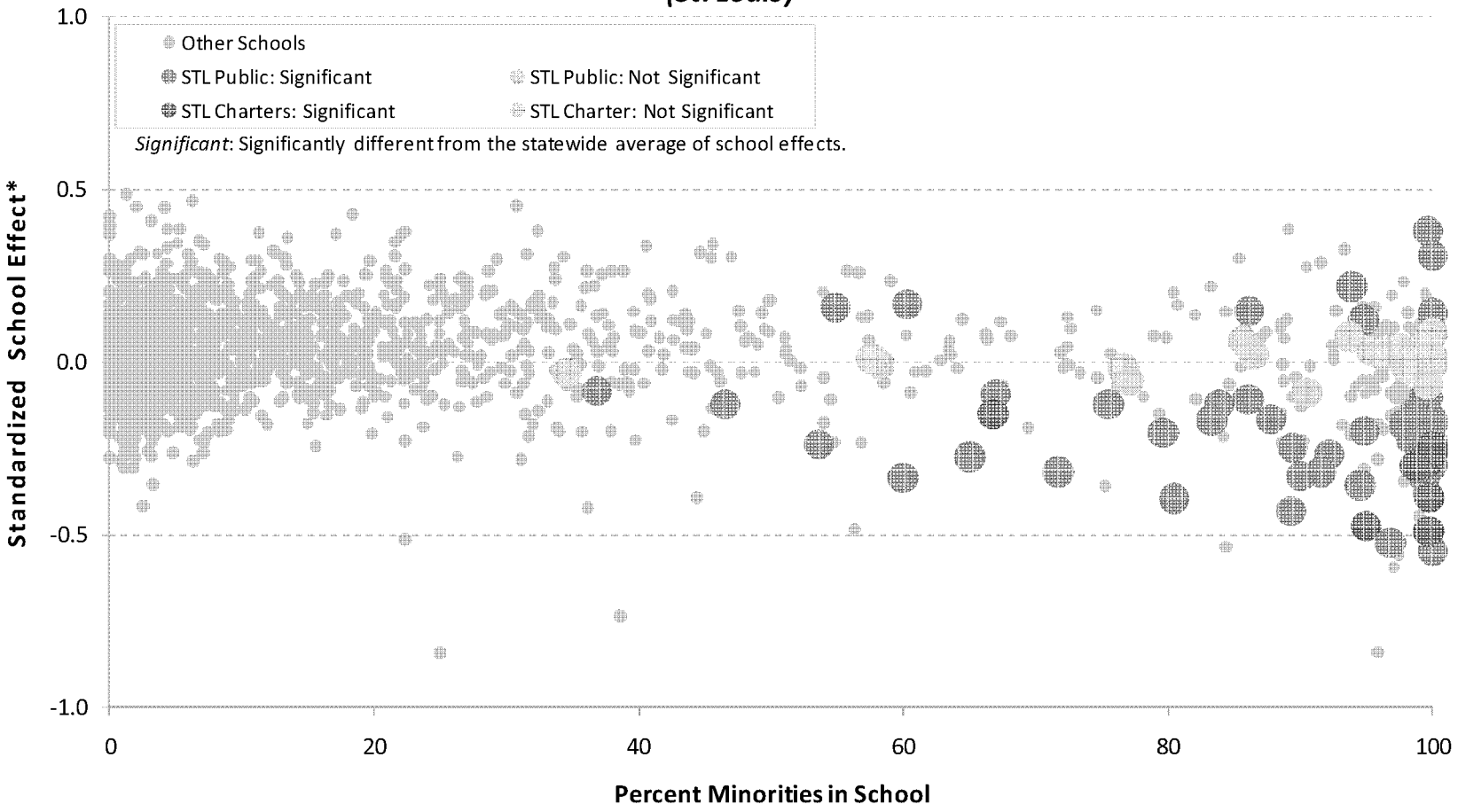


*Standardized School Effect$_i$ = (School Effect$_i$ - Average of School Effects) /StDev of Scale Scores
(*StDev of Scale Scores* = Weighted Average of by-grade Stdev of Scale Scores, for grades 3-8)
Note: Number of schools = 1,762 (with more than 20 valid test scores in both subjects)

Figure 2. Standardized School Effects on MAP Math Performance

vs. Percent Minorities

(St. Louis)

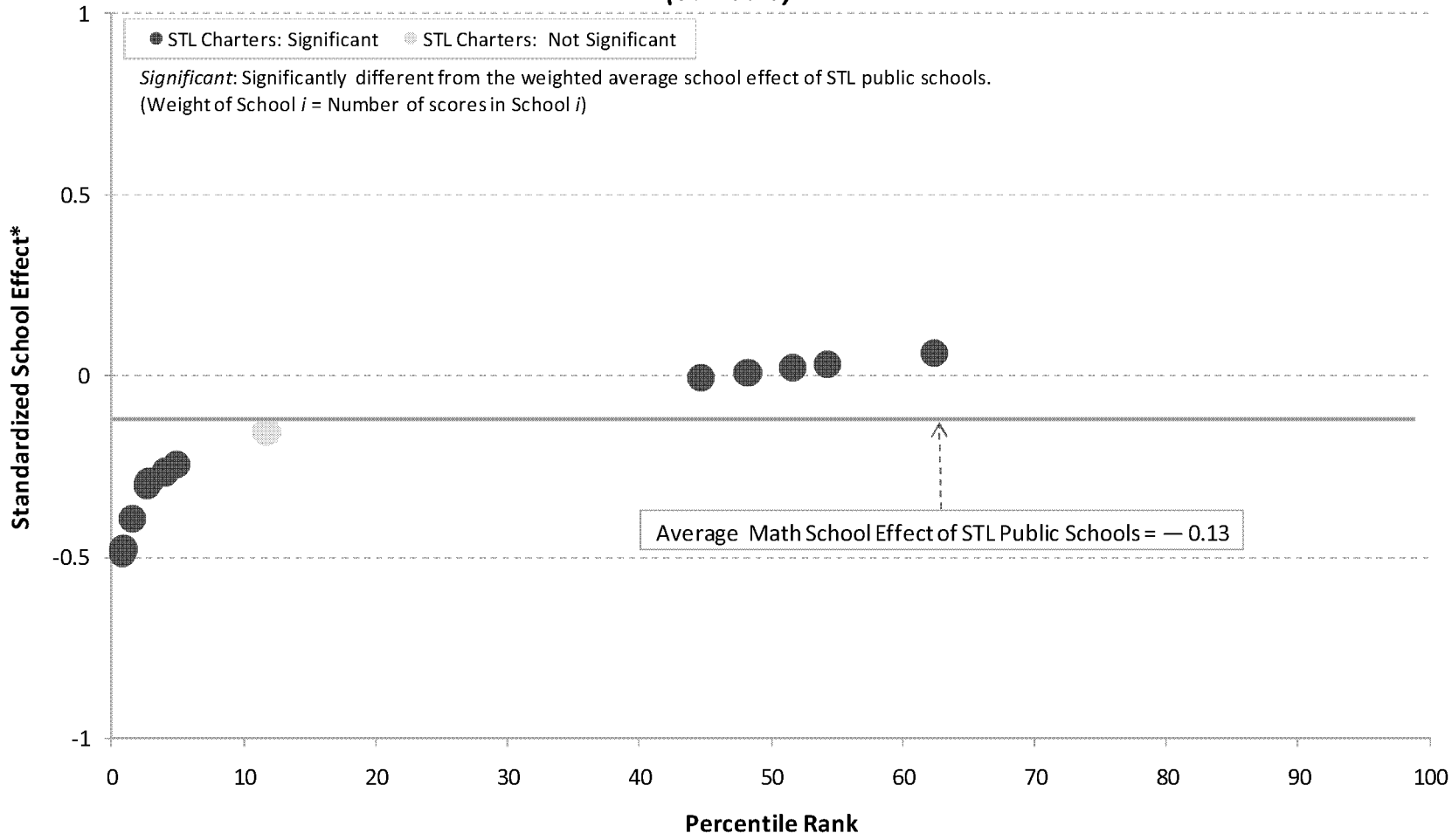


*Standardized School Effect$_i$ = (School Effect$_i$ - Average of School Effects) /StDev of Scale Scores
(*StDev of Scale Scores* = Weighted Average of by-grade Stdev of Scale Scores, for grades 3-8)
Note: Number of schools = 1,762 (with more than 20 valid test scores in both subjects)

Figure 3. Standardized School Effects on MAP Math Performance

Ordered in Rank

(St. Louis)



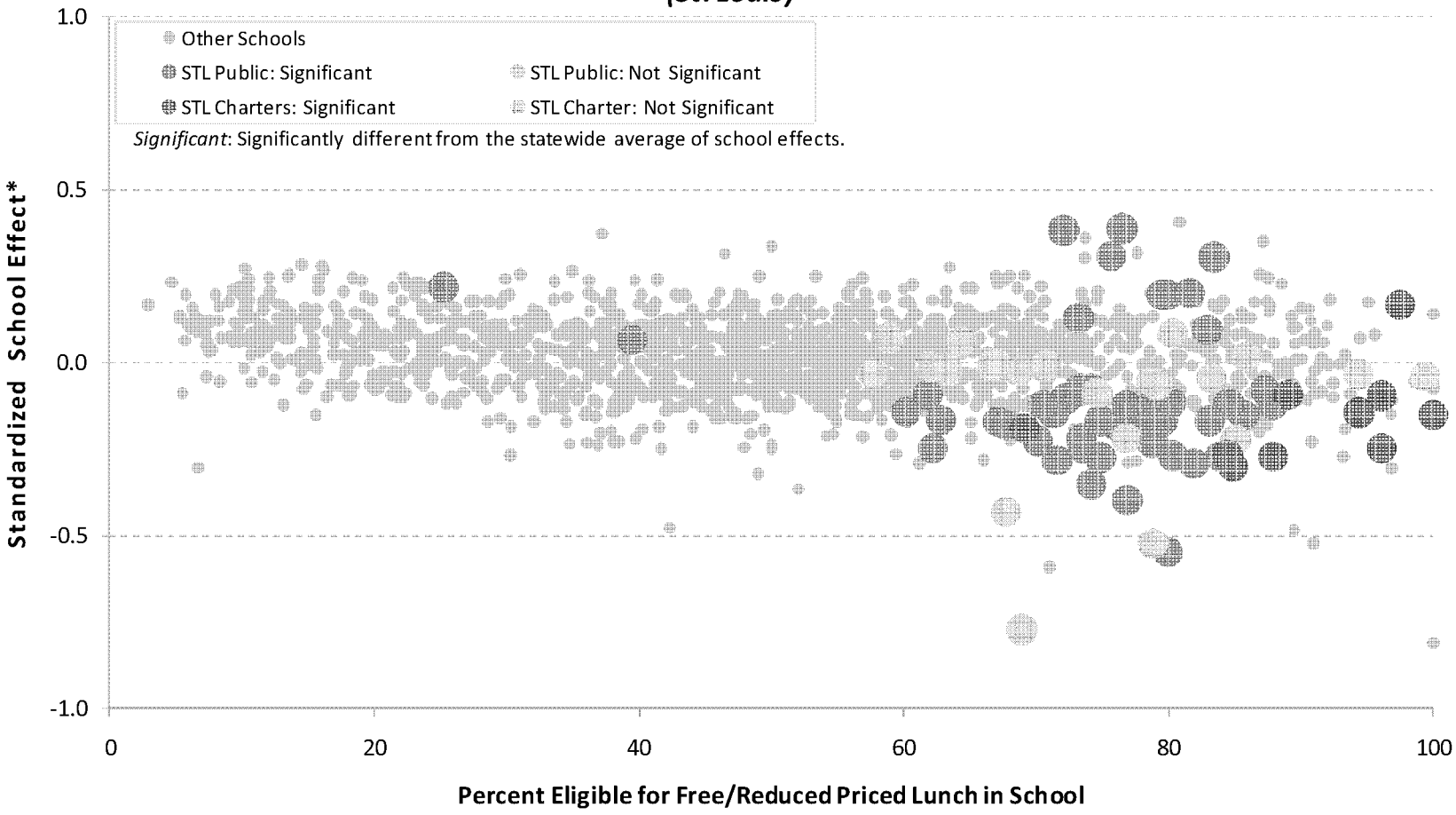
*Standardized School Effect$_i$ = (School Effect$_i$ - Average of School Effects) /StDev of Level Scores

(*StDev of Level Scores* = Weighted Average of by-grade Stdev of Level Scores, for grades 3-8)

Figure 4. Standardized School Effects on MAP Com Arts Performance

vs. Percent Eligible for Free/Reduced Priced Lunch

(St. Louis)

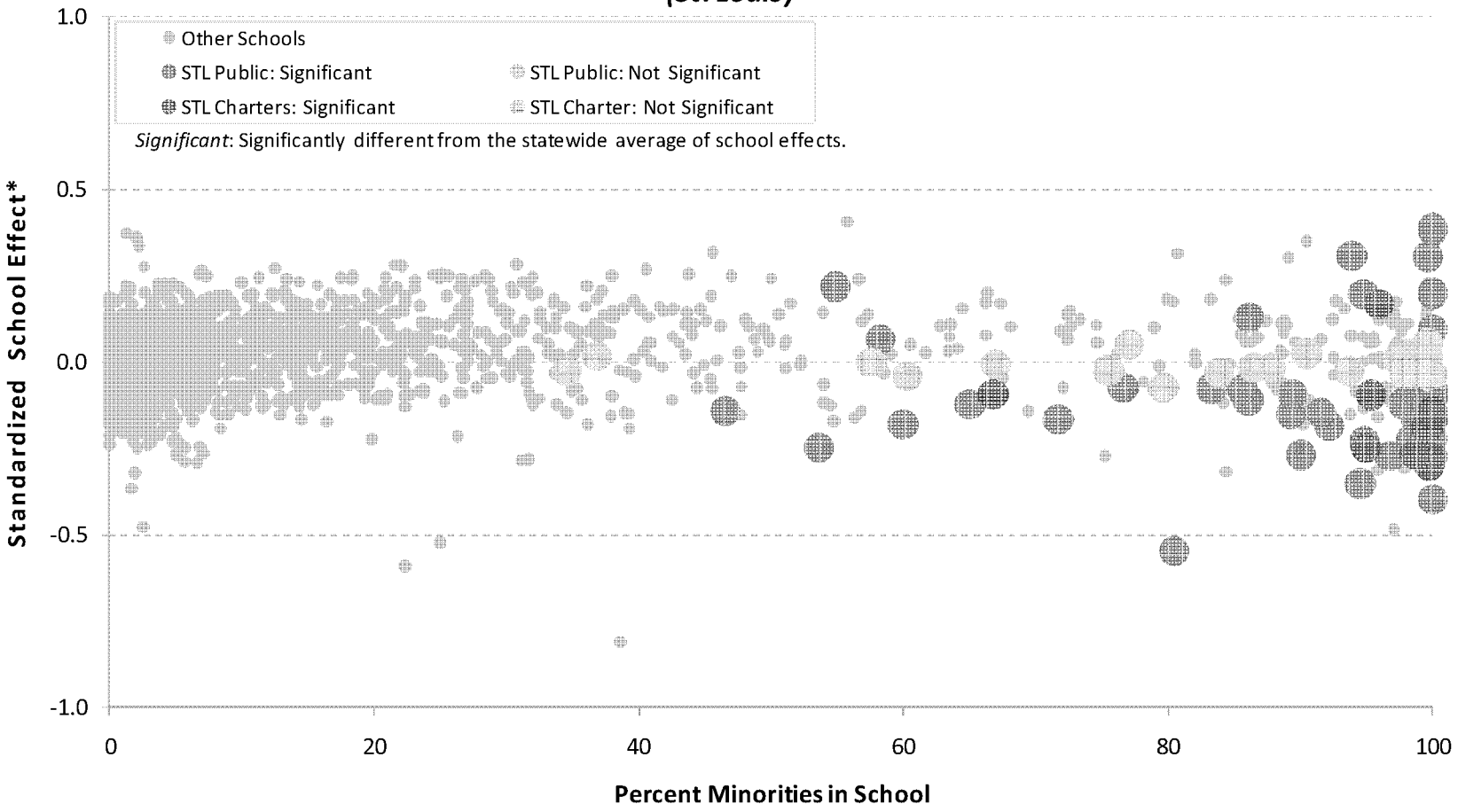


*Standardized School Effect$_i$ = (School Effect$_i$ - Average of School Effects) /StDev of Scale Scores
(*StDev of Scale Scores* = Weighted Average of by-grade Stdev of Scale Scores, for grades 3-8)
Note: Number of schools = 1,762 (with more than 20 valid test scores in both subjects)

Figure 5. Standardized School Effects on MAP Com Arts Performance

Percent Minorities

(St. Louis)

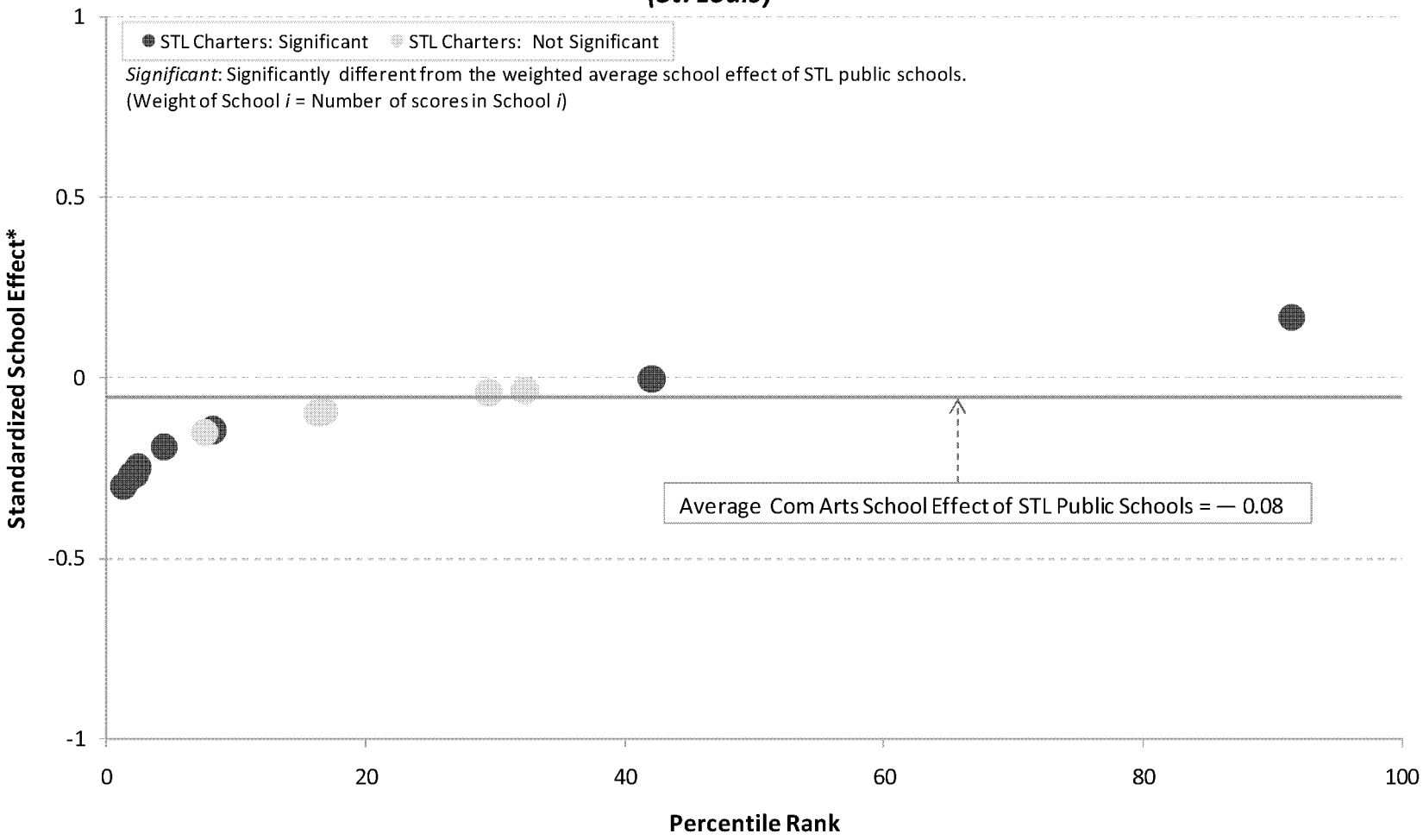


*Standardized School Effect$_i$ = (School Effect$_i$ - Average of School Effects) /StDev of Scale Scores
(*StDev of Scale Scores* = Weighted Average of by-grade Stdev of Scale Scores, for grades 3-8)
Note: Number of schools = 1,762 (with more than 20 valid test scores in both subjects)

Figure 6. Standardized School Effects on MAP Com Arts Performance

Ordered in Rank

(St. Louis)

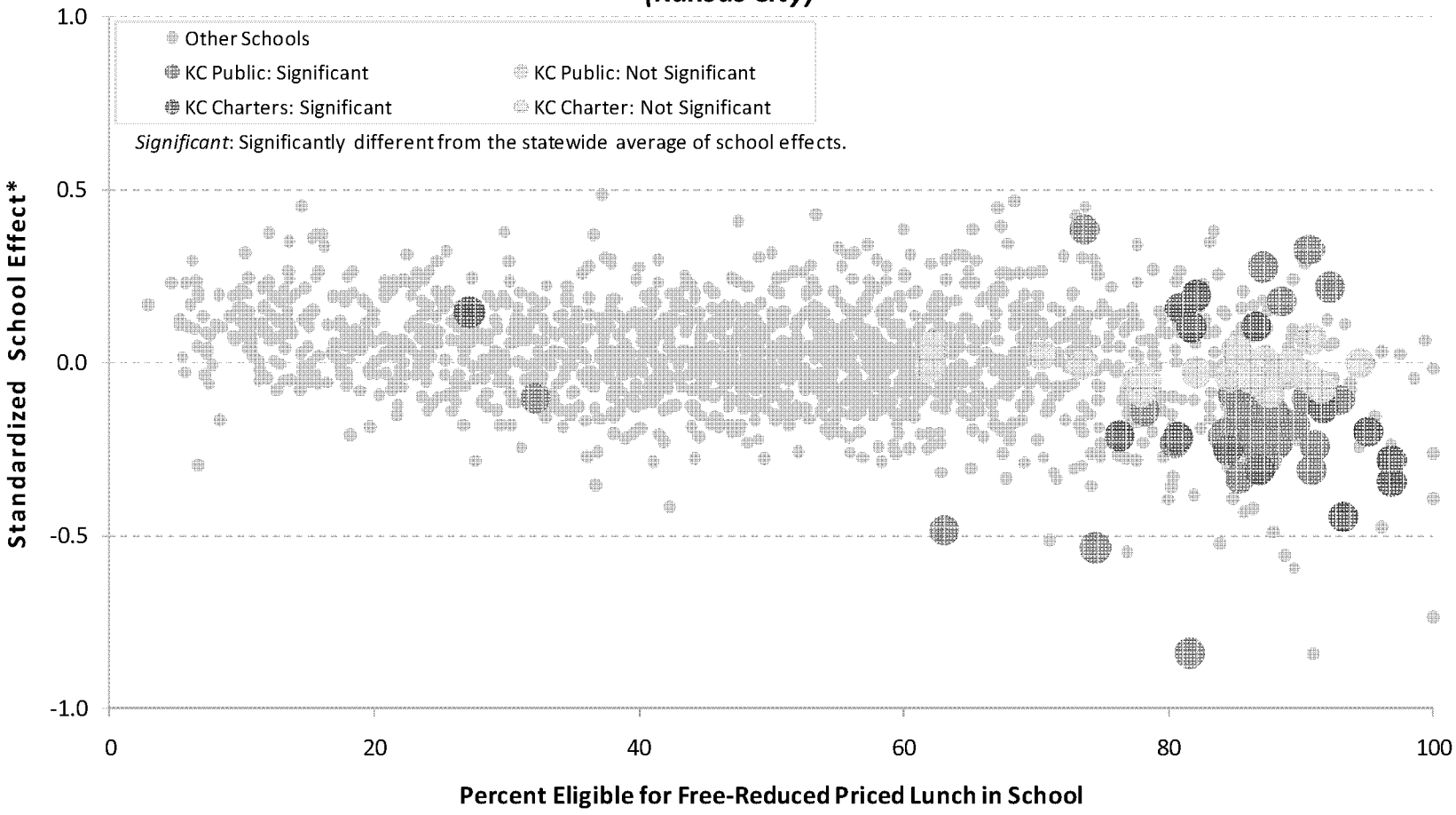


*Standardized School Effect$_i$ = (School Effect$_i$ - Average of School Effects) /StDev of Level Scores
(*StDev of Level Scores* = Weighted Average of by-grade Stdev of Level Scores, for grades 3-8)

Figure 7. Standardized School Effects on MAP Math Performance

Percent Eligible for Free-Reduced Priced Lunch

(Kansas City)

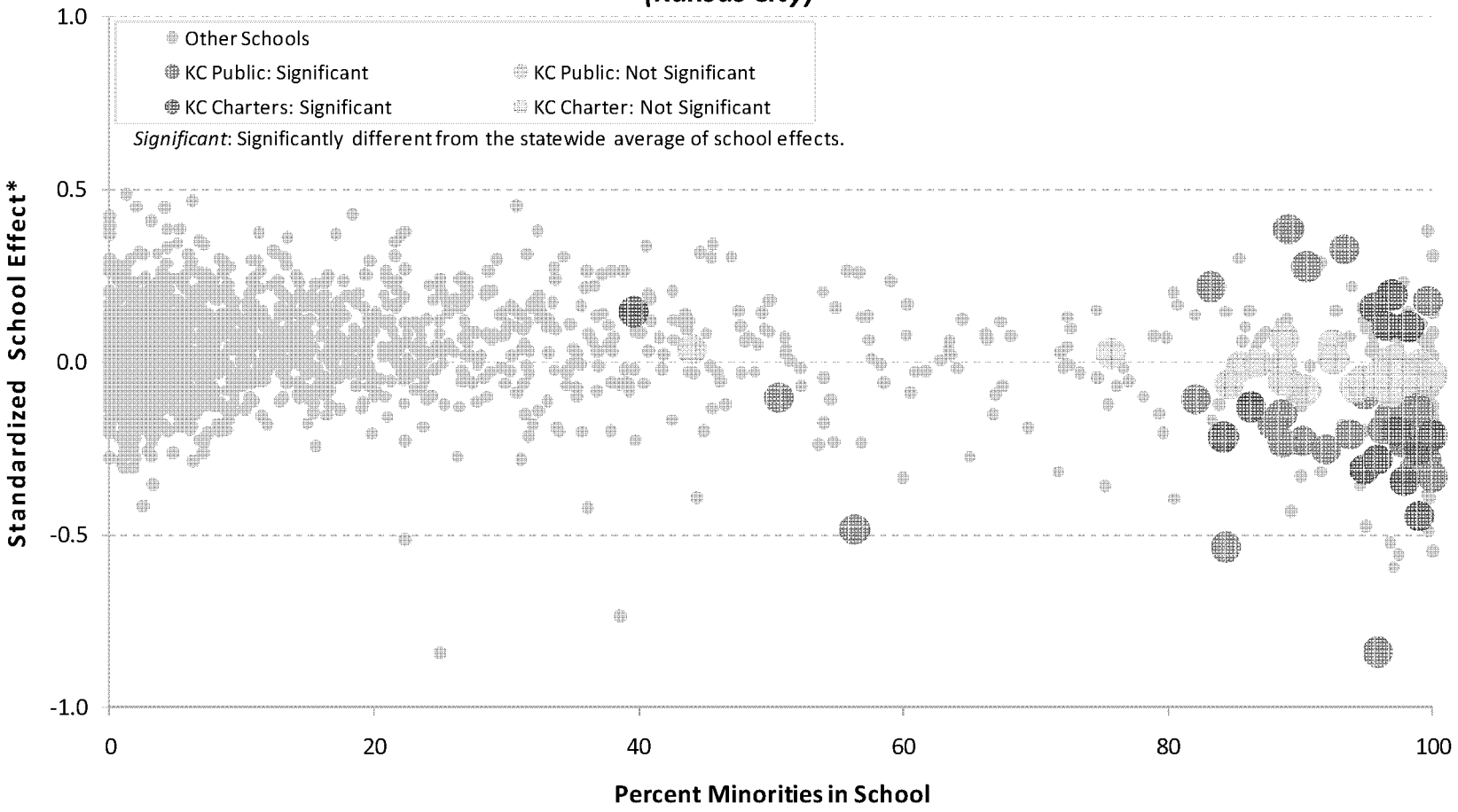


*Standardized School Effect$_i$ = (School Effect$_i$ - Average of School Effects) /StDev of Scale Scores
(*StDev of Scale Scores* = Weighted Average of by-grade Stdev of Scale Scores, for grades 3-8)
Note: Number of schools = 1,762 (with more than 20 valid test scores in both subjects)

Figure 8. Standardized School Effects on MAP Math Performance

Percent Minorities

(Kansas City)



*Standardized School Effect$_i$ = (School Effect$_i$ - Average of School Effects) /StDev of Scale Scores

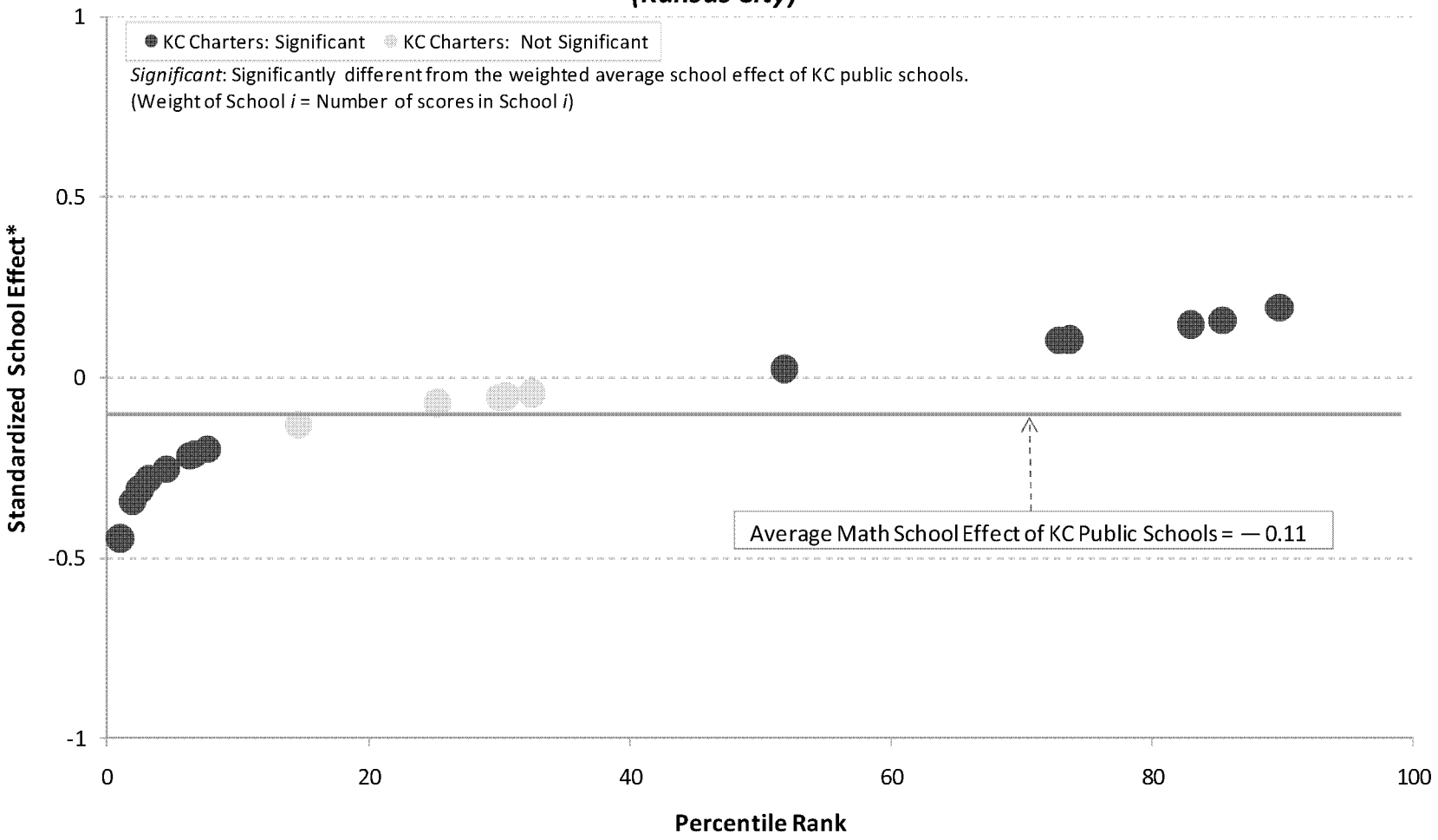
(*StDev of Scale Scores* = Weighted Average of by-grade Stdev of Scale Scores, for grades 3-8)

Note: Number of schools = 1,762 (with more than 20 valid test scores in both subjects)

Figure 9. Standardized School Effects on MAP Math Performance

Ordered in Rank

(Kansas City)



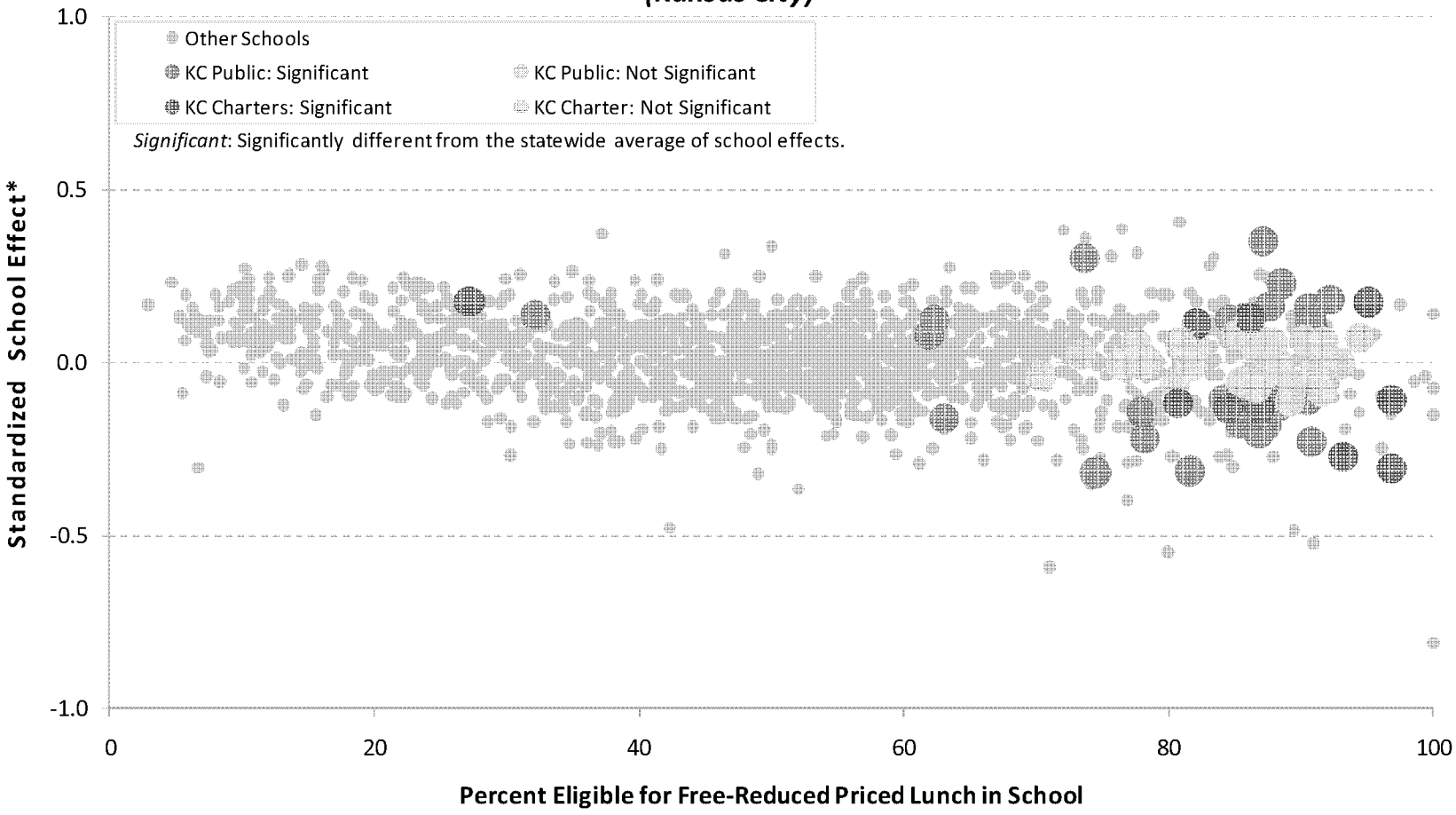
*Standardized School Effect$_i$ = (School Effect$_i$ - Average of School Effects) /StDev of Level Scores

(*StDev of Level Scores* = Weighted Average of by-grade Stdev of Level Scores, for grades 3-8)

Figure 10. Standardized School Effects on MAP Com Arts Performance

Percent Eligible for Free-Reduced Priced Lunch

(Kansas City)

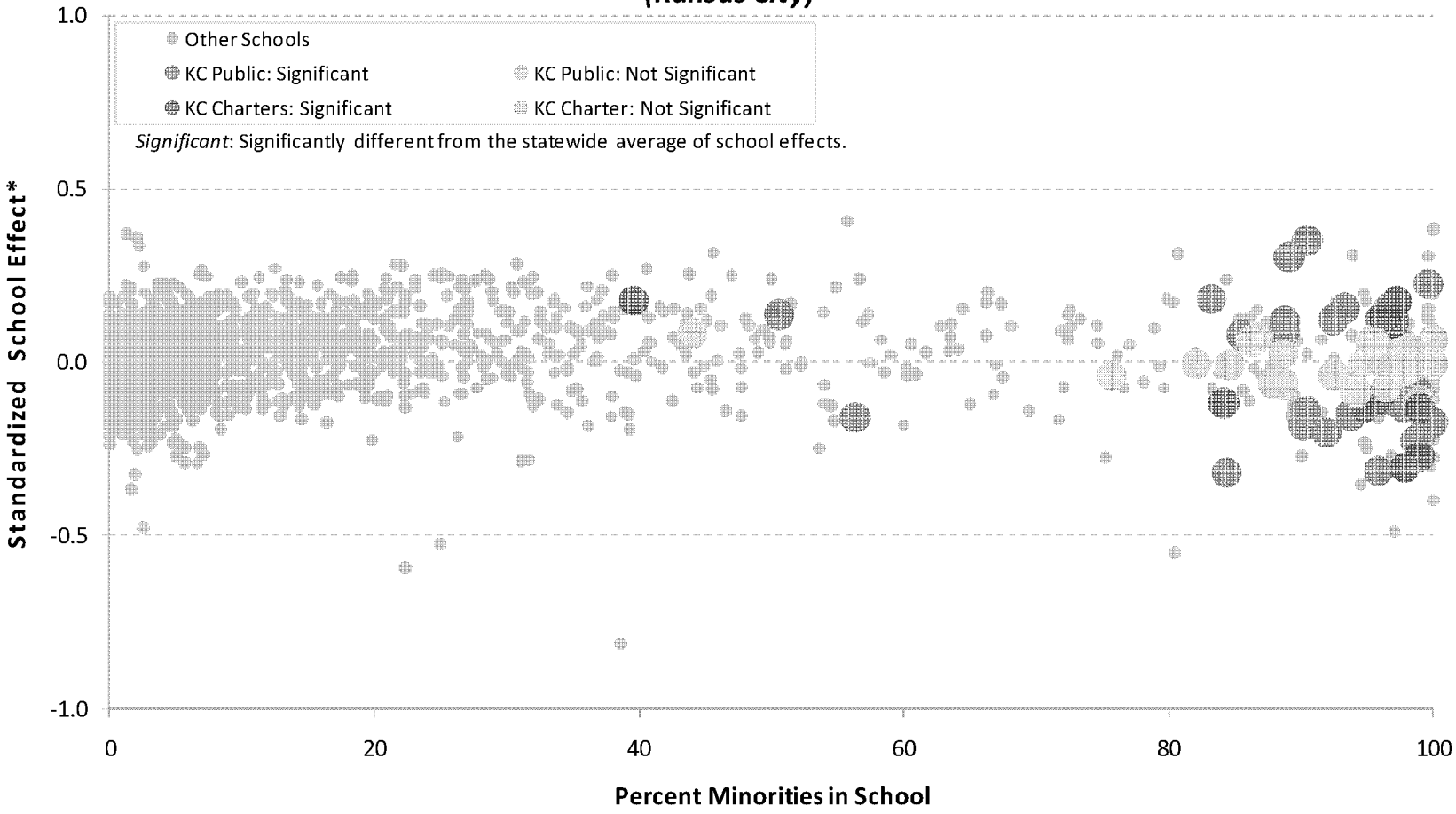


*Standardized School Effect$_i$ = (School Effect$_i$ - Average of School Effects) /StDev of Scale Scores
(*StDev of Scale Scores* = Weighted Average of by-grade Stdev of Scale Scores, for grades 3-8)
Note: Number of schools = 1,762 (with more than 20 valid test scores in both subjects)

Figure 11. Standardized School Effects on MAP Com Arts Performance

Percent Minorities

(Kansas City)

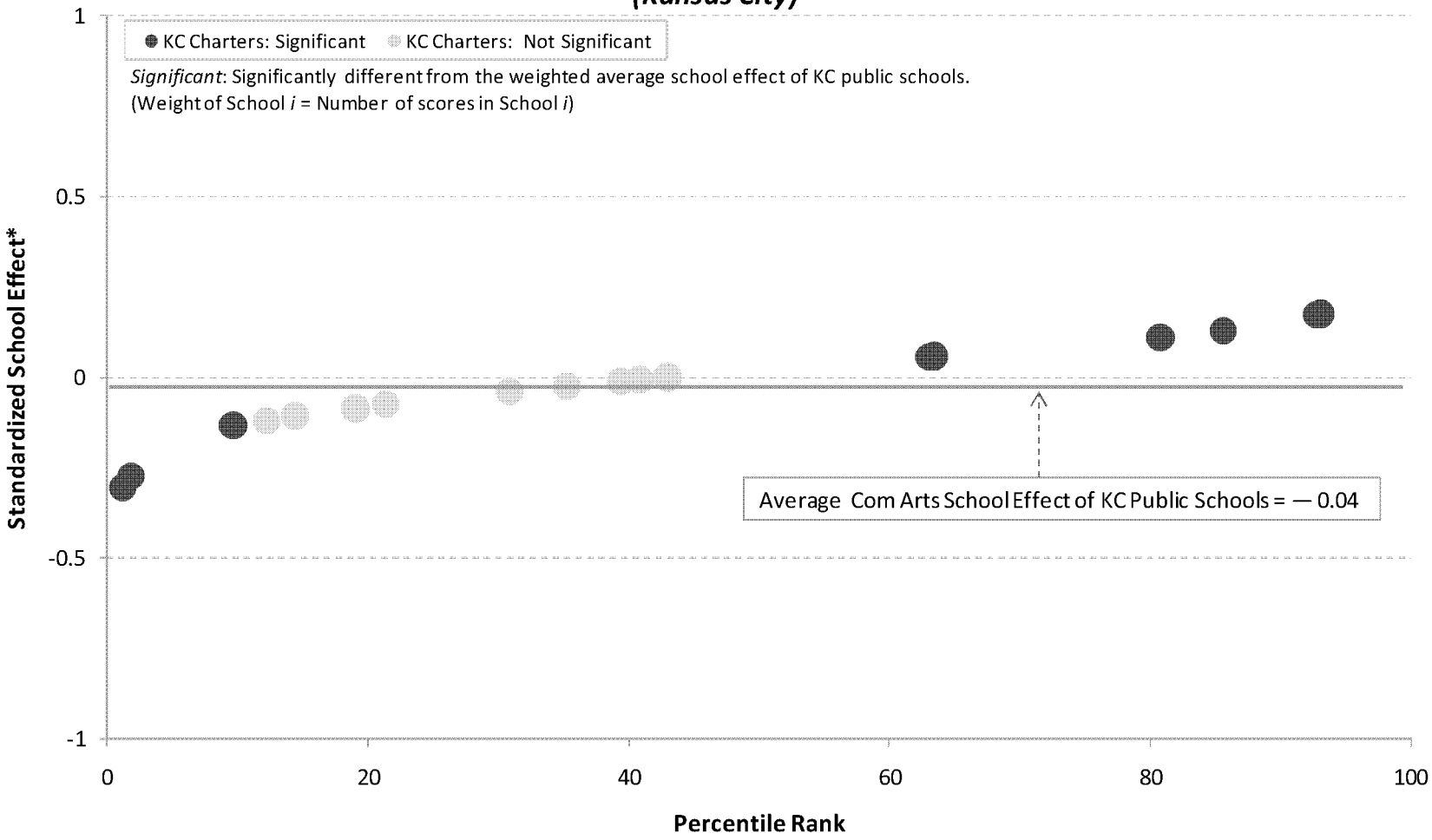


*Standardized School Effect$_i$ = (School Effect$_i$ - Average of School Effects) /StDev of Scale Scores
(*StDev of Scale Scores* = Weighted Average of by-grade Stdev of Scale Scores, for grades 3-8)
Note: Number of schools = 1,762 (with more than 20 valid test scores in both subjects)

Figure 12. Standardized School Effects on MAP Com Arts Performance

Ordered in Rank

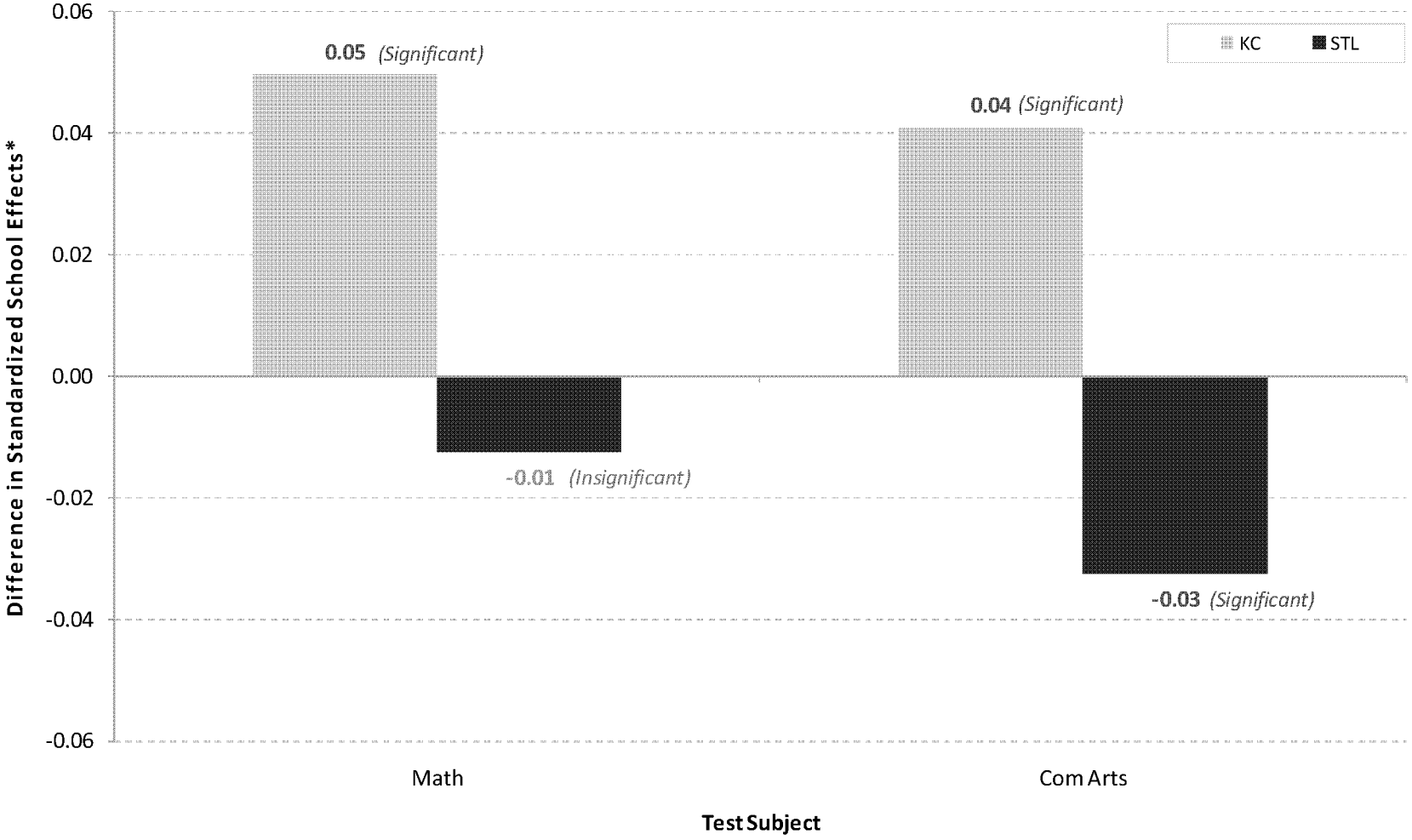
(Kansas City)



*Standardized School Effect$_i$ = (School Effect$_i$ - Average of School Effects) /StDev of Level Scores
(*StDev of Level Scores* = Weighted Average of by-grade Stdev of Level Scores, for grades 3-8)

Figure 13. Difference in Standardized School Effects

Charter — Public



* Difference in Standardized School Effects = Standardized Charter School Effect - Standardized Public School Effect

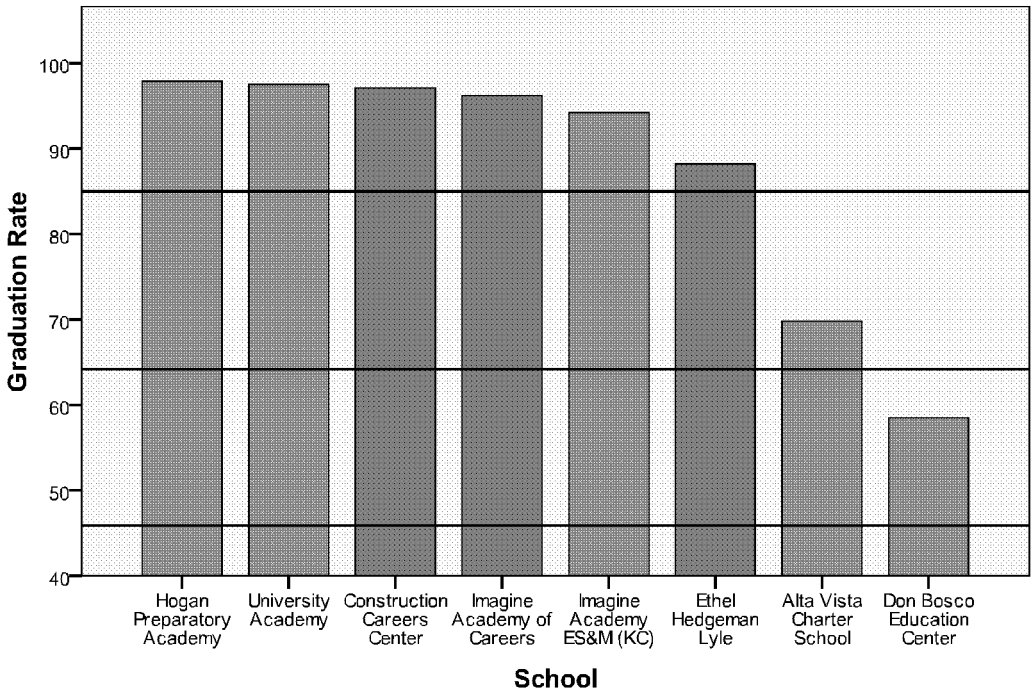
Standardized School Effect$_i$ = (School Effect$_i$ - Average of School Effects) /StDev of Level Scores

(*StDev of Level Scores* = Weighted Average of by-grade Stdev of Level Scores, for grades 3-8)

Part B – Graduation Rates

Eight secondary charter schools reported graduation rates for the 2008-2009 academic year[6]. Four of five Kansas City charter schools reported graduation rates higher than the district graduation rate for Kansas City 33 School District, and three Kansas City charter schools have graduation rates higher than the state average (shown in blue in Figure 14). Of the three secondary charter schools in St. Louis, all three reported graduation rates higher than both the state average and the average for St. Louis Public Schools (shown in red in Figure 14).

Figure 14. Charter School Graduation Rates 2008-2009



Reference lines: St. Louis Public Schools graduation rate - 45.9%; Kansas City Public Schools graduation rate - 64.2%; All Missouri Schools graduation rate - 85%

[6] Two secondary schools do not have graduation rates included. Lee A. Tolbert Academy recently expanded to serve secondary students and currently serves through grade 11. Hope Academy in Kansas City opened in 2009-2010.

Section 2 – Administrative and Instructional Best Practices

Administrators from 15 schools and teacher focus groups from 12 schools[7] participated in interviews with the Executive Director of the Joint Committee on Education respond to questions on the administrative and instructional best practices at their school. The same set of questions was asked of all participants, and the responses are summarized below.

Charter school administrators and teachers shared a wide range of information about their schools. While much of what they discussed is not uncommon or could be replicated in a traditional public school, other ideas reflect a unique environment within the charter school. Responses represent the participants' perspective on the practices and culture of their school.

Part A – Administrator Interviews

Why did you choose to become the principal/director at this school?

A few of the administrators said they accepted their current position because they supported the concept of charter schools. Specific comments noted an appreciation for the diversity of staff and students, an awareness of the school's reputation, and an overall regard for the school's culture. Nearly half of the administrators had been promoted from assistant principal or teacher, and two were former administrators in traditional public schools who came to charter schools after retirement.

If you have previously been an administrator in another type of school (e.g., traditional public school, parochial), what is the most significant difference between that work environment and your current work environment? Do you have opportunities or flexibility as a principal/director in a charter school that were not available to you as a principal/director in a traditional public school? If so, please describe.

Several administrators had previous administrative experience outside of charter schools. When asked about the differences between their former work environment and their current work environment, the most common response was that they believed the charter school offered a more positive environment for kids than what they had experienced in traditional public schools. The next most common response of administrators was their ability for autonomous decision making in charter schools. However, this was not equal across charter schools as a few administrators whose schools were managed by EMOs noted

[7] At three of the schools there were not teachers available to participate in a focus group.

that functions of staff hiring, food services contracts, and bus contracts were handled by the EMO.

Other issues administrators cited as distinct from their traditional public school experience were a noticeable lack of the presence of teacher organizations; a closer relationship with students, parents, and the community; and that charter schools can operate with a specific focus (e.g., language immersion, dropout recovery). The one negative aspect noted by administrators was lesser financial resources in the charter school.

What is the building philosophy on professional development?

Administrators identified several characteristics of the school's professional development practices although no one practice dominated the various responses. Some of the specific practices mentioned included individual teacher development plans, differentiated professional development based on level of experience, and professional development assistance from the sponsoring university. Other administrators noted support for teachers which included such things as university tuition reimbursements, financial support for National Board Certification, and mentoring for new teachers. In many situations, teachers had an active role in the professional development through leadership teams and peer teaching. Finally, a few administrators commented on the professional development of their school being driven by student achievement data and student needs and/or connected with the school's goals.

If there is one practice in your school that could be replicated and used to improve any school, what would that be?

Of the practices administrators identified in their school as most likely to be able to improve any school, the most common responses centered around school culture, namely a strong commitment to the school's mission by all staff. Most other responses were related to what the administrators noted regarding the school's professional development (e.g., instructional coaching, mentoring).

What is the biggest challenge your school faces?

Administrators noted a range of challenges faced by their school. The most common responses dealt with finances and facilities. A couple of the administrators mentioned the difficulty in offering salaries competitive with the local traditional school district. Aside from financial challenges, administrators discussed some of the challenges faced by their students: poverty, limited English proficiency, and poor prior academic preparation. A few of the administrators noted tensions with the local traditional public school district as a challenge. One administrator felt that he was challenged by what he saw

as the public perception of charter schools as a drain on traditional public school resources.

If you could change one thing about your school, what would it be?

Increased resources was the most common response from administrators regarding what they would change about their school. Other changes they would make which are not necessarily unique to charter schools included more parental involvement, higher attendance, higher academic outcomes, and higher teacher retention.

Part B – Teacher Focus Groups[8]

Why did you choose to teach at this school?

Teachers offered a variety of reasons for why they chose to teach at their school. Some mentioned simply wanted to teach in an urban setting while others specifically mentioned their support of the concept of charter schools. Teachers identified characteristics of their schools which drew them to teach there such as the positive culture, autonomy in teaching, the school's mission, or the school's reputation. A few teachers also identified practical reasons for teaching at their particular school: placement by Teach for America, a hiring freeze in the teacher's home state, or being recruited to teach at the school.

If you have previously taught in another type of school (e.g., traditional public school, parochial), what is the most significant difference between that work environment and your current work environment?

For teachers who had previously taught in traditional public school, they frequently noted their ability to make decisions about their teaching as the most common difference between teaching in a charter school and teaching in a traditional public school. Other frequent comments referenced the difference in culture between the teachers' experiences in traditional public schools and charter schools. Teachers also noted the student focus, collegiality among staff, greater efficiency for meeting student needs, and the accessibility of administrators among the experience with charter schools. A few teachers commented on their perception that teachers were more motivated in charter schools and attributed that to a variety of reasons including generally younger staff in charter schools and that teachers must earn their positions without the security of a union.

[8] Aggregate data on the teachers who participated can be found in Appendix C.

Do you have opportunities or flexibility as a teacher in a charter school that would not be available to you as a teacher in a traditional public school? If so, please describe.

Like the response from administrators, teachers' favorable impression of having greater voice in decision making in charter schools was a common response when asked about opportunities afforded to them in charter schools. With this, most teachers were speaking about their teaching or curriculum decisions. Other comments reflected the same things teachers spoke of as differentiating their previous experience in traditional public schools from charter schools such as collaboration among staff, better access to administrators, and the opportunity to work more closely with students.

What is the building philosophy on professional development? What is the teachers' role in professional development?

All of the focus groups indicated that professional development was a priority in their school. Most indicated that regular time was set aside for professional development. They echoed many of the things raised by administrators such as a balance between external experts or offsite training and internal peer coaching or individual development. A few of the teachers mentioned that teachers in their school had a voice in deciding the professional development through such things as teacher surveys or serving on professional development committees. In addition, several teachers mentioned that their school's professional development was determined by student needs as shown through student achievement data. A couple of teachers noted receiving professional development support through their sponsoring institution or EMO.

If there is one practice in your school that could be replicated and used to improve any school, what would that be?

Of the practices in their school that teachers felt could improve any school, two ideas were noted most frequently: teacher empowerment in decision making and establishing a culture of trust in the school. When talking about teacher empowerment, one teacher group commented on the importance of quality teachers as one teacher stated, "You don't want to empower weak teachers." As for the culture of trust, teachers gave examples that affected all stakeholders in the school from ease of communication with administrators to positive peer pressure among the students to developing strong teacher-student relationships. Teachers also identified academic practices at their school which they felt would benefit any school including regular formative assessments, grouping students by ability/development rather than age, and the use of data to guide instruction.

What is the biggest challenge your school faces?

Teachers cited a variety of challenges their schools face. The most common challenge noted was parental involvement. Of the five teacher groups who mentioned this, four of them also felt the problem was exacerbated by the fact that their schools were not neighborhood schools. The next most common responses were that funding and facilities issues were a major challenge. Other challenges teachers mentioned were related to the students (some of which were unique to particular schools). Teachers identified attendance, behavior, academic achievement, language barriers with parents, and involuntary student mobility as challenges faced by their school.

If you could change one thing about your school, what would it be?

Many of the teachers cited the challenges they had previously mentioned as the one thing they would change about their school. In addition to those issues, teachers said they would like to see their school have higher teacher retention. They also offered ideas such as keeping the school open at night for community functions to help the school become an anchor for the community. Interestingly, some teachers wished to see their schools expand while others wanted to see an enrollment cap or even a reduction in enrollment.

Part C – Additional Charter School Features

During the interviews or in information provided by the school, several unique features of particular schools were noted. Those include

- On-site childcare for children of teachers and staff.
- Contracts and benefits (e.g., paid vacation) for full-time substitutes.
- Full-time translators on staff to assist students and parents.[9]
- Extended school day and/or extended school year.
- Before-school programs beginning at 6:30 a.m. and after-school programs until 5:30.
- Career-focused secondary school in close partnership with local trade organization.
- French language immersion school[10]

[9] The English language learner population at the school is 62%.
[10] The school referenced is in Kansas City. French and Spanish language immersion schools also opened in 2009-2010 in St. Louis.

Appendix A

Missouri Charter Schools

School	Opened	Enrollment 2009-2010	Sponsor	Grades
St. Louis				
City Garden Montessori	2008-2009	80	SLU	K-4
Confluence Academies	2003-2004	3,011	MUS&T	K-10
Construction Careers Center	2001-2002	378	SLPS	9-12
Ethel Hedgeman Lyle	2000-2001	807	MBU	K-12
Imagine Academy of Academic Success	2007-2008	478	MBU	K-8
Imagine Academy of Careers	2007-2008	1,351	MBU	K-12
Imagine Academy of ES&M (StL)	2007-2008	1,339	MBU	K-8
KIPP Inspire Academy	2009-2010	83	Wash U	5
Lift for Life Academy	2000-2001	434	SEMO	6-10
Northside Community School	2009-2010	54	UMSL	K-5
Paideia Academy	2002-2003	505	MUS&T	K-8
St. Louis Charter School	2000-2001	913	UMSL	K-8
St. Louis Language Immersion	2009-2010	170	UMSL	K-1
Kansas City				
Academie Lafayette	1999-2000	563	UCM	K-8
Allen Village Charter	1999-2000	406	UMKC	K-8
Alta Vista Charter School	1999-2000	193	UCM	9-12
Benjamin Banneker Charter Academy	1999-2000	344	UCM	K-8
Brookside Charter	2002-2003	490	UMKC	K-11
Della Lamb Elementary	1999-2000	453	UCM	K-8
Derrick Thomas Academy	2002-2003	901	UMKC	K-8
Don Bosco Education Center	1999-2000	250	UCM	9-12
Frontier School of Innovation	2009-2010	303	UMKC	K-5
Genesis School Inc.	1999-2000	154	UMKC	6-9
Gordon Parks Elementary	1999-2000	217	UCM	K-5
Hogan Preparatory Academy	1999-2000	348	UCM	9-12
Hope Academy	2009-2010	215	UMKC	9-12
Imagine Academy ES&M (KC)	2007-2008	1,255	MU	K-12
KIPP Endeavor Academy	2007-2008	170	MCC-PV	5-6
Lee A. Tolbert Academy	1999-2000	624	UMKC	K-12
Pathway Academy	2009-2010	436	UMKC	K-8
Scoula Vita Nuova	1999-2000	224	UCM	K-8
University Academy	2000-2001	1,085	UMKC	K-12
Urban Community Leadership Academy	1999-2000	201	UCM	5-9

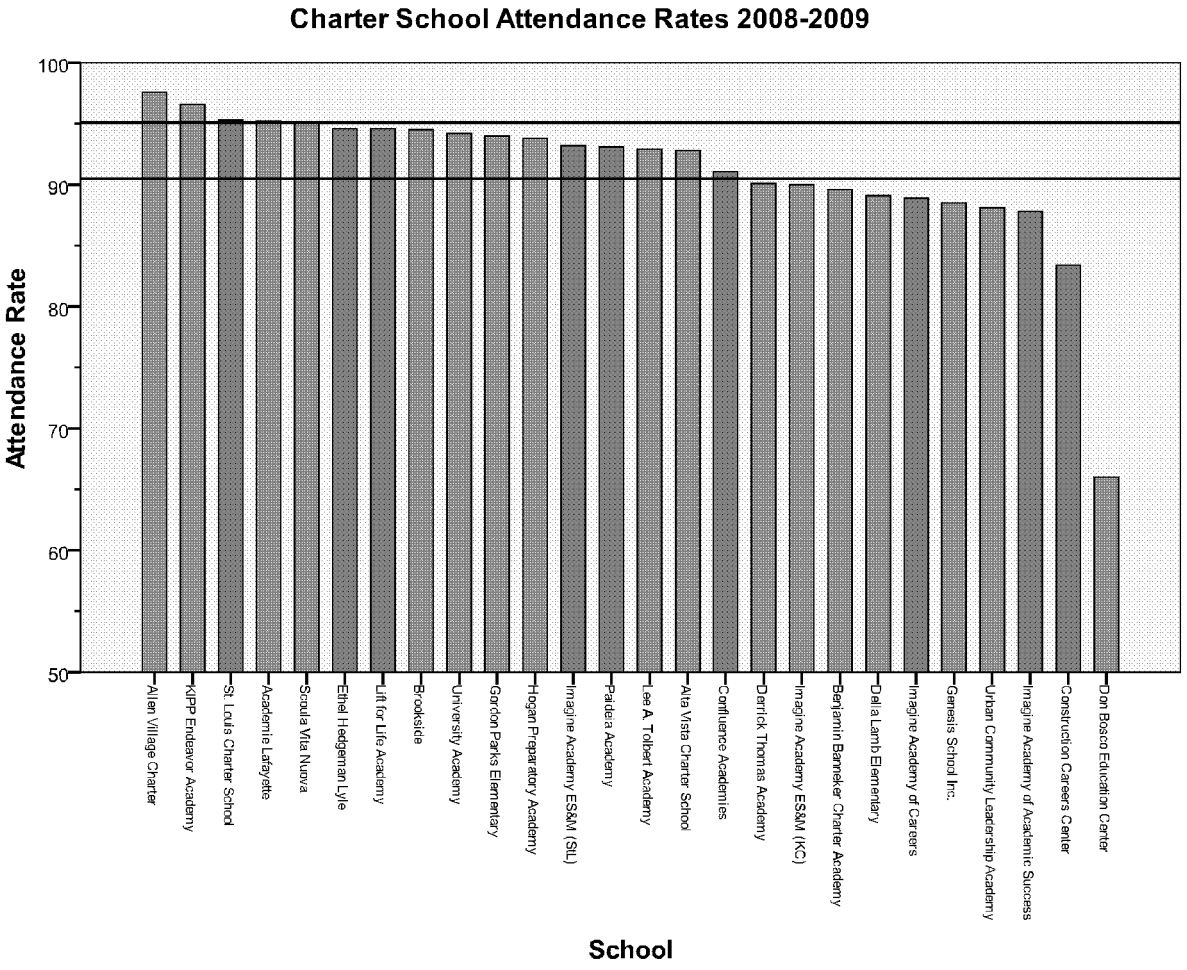
Total 2009-2010 enrollment in St. Louis charter schools 9,603
Total 2009-2010 enrollment in Kansas City charter schools 8,832

Appendix B

Attendance Rates and Reenrollment Rates

School	Attendance Rate 2008-2009 (%)	Reenrollment Rate 2008-2009 to 2009-2010 (%)
St. Louis		
City Garden Montessori	n/a	n/a
Confluence Academies	91.1	83.9
Construction Careers Center	63.3	63.3
Ethel Hedgeman Lyle	94.6	n/a[11]
Imagine Academy of Academic Success	87.8	67.0
Imagine Academy of Careers	88.9	68.4
Imagine Academy of ES&M (StL)	93.2	71.7
KIPP Inspire Academy	n/a	n/a
Lift for Life Academy	94.6	89.8
Northside Community School	n/a	n/a
Paideia Academy	93.1	71.7
St. Louis Charter School	95.3	93.1
St. Louis Language Immersion	n/a	n/a
Kansas City		
Academie Lafayette	95.2	96.1
Allen Village Charter	97.6	74.8
Alta Vista Charter School	92.8	84.6
Benjamin Banneker Charter Academy	89.6	55.0
Brookside Charter	94.5	73.5
Della Lamb Elementary	89.1	81.6
Derrick Thomas Academy	90.1	62.9
Don Bosco Education Center	66.0	63.7
Frontier School of Innovation	n/a	n/a
Genesis School Inc.	88.5	23.3
Gordon Parks Elementary	94.0	65.3
Hogan Preparatory Academy	93.8	75.1
Hope Academy	n/a	n/a
Imagine Academy ES&M (KC)	90.0	67.7
KIPP Endeavor Academy	96.6	69.5
Lee A. Tolbert Academy	92.9	78.3
Pathway Academy	n/a	n/a
Scoula Vita Nuova	95.1	87.2
University Academy	94.2	88.5
Urban Community Leadership Academy	88.1	44.0

[11] Ethel Hedgeman Lyle became an independent school in 2009-2010 after previously being part of another school managed by an EMO.



Reference lines: Kansas City Public Schools - 90.5% attendance rate; St. Louis Public Schools - 90.3% attendance rate; All Missouri schools - 95.1% attendance rate

Appendix C

Data Preparation Procedures

We retrieved individual MAP records from the data set maintained on OSEDA, and processed the data in four steps. Data preparation procedures were designed to support our ultimate goal of performing analytical examination of test scores and drawing inferences. We completed four data management and cleaning steps for the mathematics and communication arts exam scores, as follows:

Step 1) Delete the records assigned to identified "special" education districts.
Step 2) Identify and delete records with invalid and/or duplicate MOSIS IDs.
Step 3) Identify and count matching records for all possible combination of years.
Step 4) Identify and count matching records with proper grade increments.

We conducted the data cleaning and preparation on all test records with a valid test score.

Table 1 reports record counts for both Math and Communication Arts in each year, along with reductions due to data cleaning and preparation. We note that the number of records removed due to bad or duplicate MOSIS IDs drastically diminishes between 2006 and 2007, and continues to decline in 2008. (Note that a substantial drop in MAP counts occurs in 2009 because the 10th grade MAP math and the 11th grade MAP Communication Arts exams were no longer mandatory.)

Table C-1. MAP Record Counts after Data Preparation Steps

		2006	2007	2008	2009
Math	All	474,094	469,624	467,183	399,718
	Excluding Special Districts	472,791	468,415	466,077	399,108
	Excluding Bad Records	466,989	467,474	465,722	398,831
Communication Arts	All	463,866	461,311	460,466	399,413
	Excluding Special Districts	462,678	460,231	459,380	398,803
	Excluding Bad Records	457,105	459,340	458,962	398,524

After removing all records with invalid and duplicate MOSIS IDs, we ended up with 1,799,016 test score records for 790,604 students with a unique MOSIS State ID and at least one Math record. For Communication Arts, we were left

with 1,773,931 test score records for 828,308 students with a unique MOSIS State ID and at least one Communication Arts test record.

We then counted the matching records with proper grade increment. Table A-2 presents for each subject and grade the number of matched records and the corresponding match rate. Since a non-missing terminal-year record (i.e., the second year in the paired scores) is required for analysis, we calculated the match rate to be the number of matched records as a percentage of the number of total valid records in the terminal year. As shown in the table, match rates are relatively constant across grade levels within any reported combination.

Table C-2. Number of Records for the 2-Year Matched, Non-Retained in Grade

		Number of Matches			Match Rate		
	Grade	2006-2007	2007-2008	2008-2009	2006-2007	2007-2008	2008-2009
Math	4	60,247	62,884	62,631	94.3%	94.7%	94.7%
	5	60,833	61,709	63,452	94.3%	94.7%	95.0%
	6	61,295	61,678	61,994	93.9%	94.5%	94.6%
	7	61,762	62,128	62,128	93.6%	94.2%	94.8%
	8	64,658	63,007	62,743	93.0%	93.7%	94.4%
Com Arts	4	59,903	62,612	62,526	94.3%	94.7%	94.7%
	5	60,619	61,576	63,402	94.4%	94.7%	95.0%
	6	61,087	61,655	61,938	93.2%	94.6%	94.7%
	7	61,298	62,130	62,137	94.0%	94.3%	94.8%
	8	64,140	62,684	62,775	93.1%	93.8%	94.5%

* Grade is terminal-year grade of each match.
* Denominator of match rate is the number of valid records in terminal-year of each match.

Appendix D

Regression Coefficients and Related Statistical Estimates

	Dependent Variable			
	Math		**Communication Arts**	
	Coefficient	T-Statistic	Coefficient	T-Statistic
Past Scores:				
First-Year Scale Score in Math	- 0.34194**	- 30.81	0.19145**	18.91
Squared First-Year Scale Score in Math	- 0.00003**	- 3.37	0.00001	0.98
First-Year Scale Score in Com Arts	- 0.48245**	- 38.19	- 0.54505**	- 47.30
Squared First-Year Scale Score in Com Arts	0.00054**	55.42	0.00007**	7.84
Indicators for Student Characteristics:				
American-Indian	- 0.92858**	- 2.72	0.08011	0.26
Asian/Pacific Islander	4.64526**	26.53	1.49822**	9.38
Black	- 4.08531**	- 47.43	- 1.64919**	- 20.99
Hispanic	- 0.89970**	- 6.46	- 0.09035	- 0.71
Female	- 2.16402**	- 48.82	3.60541**	89.18
Special Education	- 6.16846**	- 86.27	- 8.07978**	-123.90
Limited English Proficiency	0.24188	1.38	- 2.12545**	- 13.32
Free/Reduced Price Lunch Eligibility	- 2.37397**	- 46.78	- 2.38827**	- 51.61
In the School Less Than a Full School Year	- 3.33210**	- 29.97	- 2.63134**	- 25.95
Indicators for Grade and Year:				
Terminal-year Grade 4	-19.46713**	-157.16	- 8.14487**	- 72.10
Terminal-year Grade 5	-18.22465**	-161.81	- 6.14417**	- 59.81
Terminal-year Grade 6	-13.95812**	-170.22	-16.47484**	-220.29
Terminal-year Grade 7	-17.73426**	-254.94	-12.02678**	-189.57
Dummy for 2006-2007	- 0.45133**	- 8.40	- 1.45330**	- 29.67
Dummy for 2007-2008	- 0.60767**	- 11.47	- 0.24555**	- 5.08
	R^2 = 0.251		R^2 = 0.308	

Number of School Effects = 1,773 (except the reference school)
Sample Size(Number of Gainscores) = 926,358
** denotes that coefficient is significant at 1% level.

Appendix E

Teacher Focus Group Characteristics

N = 61 teachers in 12 schools

Teaching Experience	Mean	Minimum	Maximum
Years teaching in current charter school	3.8	0	10
Years of previous teaching in another setting	5.0	0	21

Teacher Preparation	n	%
Alternative or accelerated program at a college or university	10	16.4%
Alternative certification program (e.g., ABCTE)	2	3.3%
Alternative preparation program (e.g., Teach for America)	2	3.3%
Content area degree, no certification	3	4.9%
Teacher preparation program at a college or university/degree in education	42	68.9%
Other[12]	2	3.3%

Teacher Certification	n	%
Regular certification	48	78.7%
Provisional certification	5	8.2%
Temporary certification	2	3.3%
No certification	1	1.6%
Other[13]	4	6.6%

Level Taught	n	%
Elementary	28	45.9%
Middle	14	23.0%
Secondary	19	31.1%

Content Area	n	%
Art	2	3.3%
Elementary, classroom teacher	20	32.8%
Foreign Language	4	6.6%
Language Arts	8	13.1%
Math	5	8.2%
P.E.	2	3.3%
Science	4	6.6%
Social Studies	4	6.6%
Special Education	4	6.6%
Specialist (e.g., library/media specialist, counselor	5	8.2%

Previous Teaching Experience	n	%
Traditional public school	25	41.0%
Private, parochial	1	1.6%
Private, non-parochial	1	1.6%
Another charter school	5	8.2%
Multiple settings	13	21.3%
No previous teaching experience	14	23.0%

[12] One certified in occupational therapy; one with certification from an international institution.

[13] One occupational therapy license; three working toward certification requirements.

Appendix F

Other Reports or Studies Including Missouri Charter Schools

1. "Public School in St. Louis: Place, Performance, and Promise." Report prepared by IFF and funded by the National Association of Charter School Authorizers. July 2009.
   http://www.iff.org/images/IFF_PDFs/STL-Report.pdf

   The report is an analysis of the supply and demand of public school options by geographical areas within the city of St. Louis.
   Note: This report was funded by the National Association of Charter School Authorizers.

2. "Multiple Choice: Charter School Performance in 16 States." Center for Research on Educational Outcomes, Stanford University. June 2009.

   Full report:
   http://credo.stanford.edu/reports/MULTIPLE_CHOICE_CREDO.pdf.

   Subsection on Missouri charter schools:
   http://credo.stanford.edu/reports/MO_CHARTER%20SCHOOL%20REPORT_CREDO_2009.pdf.

   This study is a multistate analysis of student achievement gains of charter school students compared with their public school peers using longitudinal data.

Appendix G

Survey Data Provided by Charter Schools

The following schools submitted parent, student, and/or teacher survey they collected.

- Allen Village
- Brookside Charter School
- Derrick Thomas Academy
- Ethel Hedgeman Lyle Academy (Elementary)
- Genesis School
- Imagine Renaissance Academy of Environmental Math and Science (Kansas City)
- Imagine Academy of Environmental Science and Math (St. Louis)
- Imagine Academy of Careers
- Imagine Academy of Academic Success
- St. Louis Charter School
- University Academy

Paper copies of these surveys are available for review in the office of the Joint Committee on Education, Rm. 502, State Capitol.

Charter School Application

A Model Resource for Missouri Charter Public School Sponsors

SPONSOR NAME

SPONSOR ADDRESS

DEVELOPED BY THE NATIONAL ASSOCIATION OF CHARTER SCHOOL AUTHORIZERS

Contents

Introduction 3

Application Components and Guidelines 5

Application Requirements Checklist 6

Missouri Charter School Application Cover Sheet 7

A. Education Plan

A.1 Mission, Vision and Educational Philosophy 10

A.2 Curriculum and Instruction 11

A.3 Career Education * 12

A.4 School Calendar and Daily Schedule 14

A.5 Target Population 15

A.6 Special Student Populations 16

A.7 School-Specific Goals and Objectives 17

A.7.1 Comprehensive Performance Measures * 18

A.8 Assessment 19

A.9 School Climate and Discipline 20

B. Organizational Plan

B.1 Governing Body 22

B.2 Governing Board Composition 23

B.3 Management and Operation 24

B.3.1 Education Service Providers * 25

B.4 Staffing and Human Resources 26

B.4.1 Four-Year College and/or University Affiliation * 27

B.5 Student Recruitment and Enrollment 28

B.6 Community Involvement 29

B.6.1 Joint Application * 30

C. Business Plan

C.1 Budget 32

C.2 Financial Management 33

C.3 Facility 34

C.4 Transportation 35

C.5 Insurance 36

C.6 Pre-Opening Plan 37

Appendices

Appendix 1: Request for Information from Prospective Charter School Board Members 39

Appendix 2: Frequently Asked Questions about Charter Schools 41

* *Denotes sections required only of certain applicants*

Introduction

This application calls for proposals to start charter schools that are likely to achieve strong educational outcomes. Through charter schools, we expect to provide families with educational options of many different shapes and sizes but with one thing in common: quality education.

This application packet will guide you through the steps of developing a charter school proposal. Each section requests information about a specific aspect of your plan and presents the evaluation criteria that reviewers will use to determine whether the section meets the standard for approval. Experience has shown that successful charter schools tend to have a number of common characteristics:

- A clear, focused, results-oriented mission statement that aligns all parts of the proposal
- Demonstrated understanding of the population that the school is likely to serve;
- An educational program that is likely to be effective for the target population;
- Strong and diverse leadership; and
- Strong financial planning and management.

We are eager to receive well-developed applications from capable school developers who are committed to educating their students well and improving the lives of children and families in our community.

If you have any questions regarding this application or the evaluation process, please contact:

SPONSOR NAME AND ADDRESS

nacsa NATIONAL ASSOCIATION OF CHARTER SCHOOL AUTHORIZERS

Dear Prospective Charter School Applicant:

Thank you for your interest in creating a charter school in Missouri. In 1998, the Missouri legislature created an opportunity for the creation of new, performance-based public schools through the charter process. Charter schools are secular, tuition-free public schools that operate as independent nonprofit organizations. They offer new public education options to children, families, teachers and school leaders. Our state's charter school legislation offers students, families and educators more choices in public education. It allows schools autonomy and flexibility in how they operate in exchange for establishing higher expectations for educating students well.

Missouri is not alone in looking to charter schools to improve public education. More than 4,600 charter schools educate more than 1.3 million children nationally. The new federal administration has made it a priority to increase substantially federal financial support for starting new charter schools.

Sponsors

Charter schools are created by application to a designated charter school sponsor. The Sponsor has been designated as a charter school sponsor under Missouri law. As a charter school sponsor, our goals are to enhance public education opportunities and quality. We are committed to creating opportunities for high quality schools for the youth and families of our communities. Any individual or group may submit an application to the Sponsor. This application packet is designed to provide potential applicants a clear understanding of our expectations for the content and quality of an application that merits approval.

Governance

Charter schools are governed by a nonprofit governing board. Missouri law requires applicants to demonstrate that they are qualified to operate a charter school. Typically, high performing charter schools have governing boards that are composed of a individuals with a mixture of backgrounds and expertise relevant to governing a public, not-for-profit educational organization. Such experience and expertise may include educational program, legal compliance, real estate and facilities, financial management and accounting, fundraising and development, community engagement, and parents.

Autonomy

Charter schools operate with substantial flexibility and autonomy in comparison to traditional public schools. Charter school operators have the opportunity and responsibility to decide the best ways to allocate resources like time, people and money to best meet the needs of their students. For example, operators may determine the length and structure of the school day in a way that best fits the educational program; they may structure staffing in a way that best supports teachers and students; and they may structure the budget to ensure that teachers will have the instructional resources they need to be effective. The authority of charter school operators to make these types of decisions is premised on the belief that those closest to students are best suited to make critical decisions about meeting their learning needs.

Accountability

Performance-based accountability is a central component of the charter school idea. Missouri charter school law requires that schools have clear, measurable academic performance standards under which they will operate and be evaluated. In addition, schools must be financially accountable and must comply with applicable laws such as health and safety, special education, and all civil rights laws.

The Sponsor will approve applications that clearly demonstrate strong capacity for establishing and operating a quality charter school. This standard requires a sound education program, organizational plan, and financial plan, as well as strong capacity to implement the proposal effectively.

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Application Components and Guidelines

Components

The application consists of the following components:

Cover Sheet
The Cover Sheet provides a summary of key information related to the proposed school, including geographic location, enrollment projections, and applicant contact information.

Narrative
The three sections of the Narrative are the Education Plan, Organizational Plan, and Business Plan. Within each section, there are specific response categories (e.g., Curriculum and Instruction under the Education Plan or Budget under the Business Plan). Each response category includes the following:

- Applicant Instructions that inform you what you are expected to present.
- Evaluation Criteria by which reviewers will evaluate your response.
- Statutory Reference(s) that document the legal authority for the request.
- Required Exhibits (if applicable) listing attachments that you are required to provide as part of the response. The required exhibits do not preclude applicants from providing any other attachments that you consider relevant and significant for presenting your plan.

Appendix
The Appendix provides resources related to the application, including forms for some of the required attachments, such as the budget template and the questionnaire for prospective charter school board members.

Format Requirements

The Application should adhere to the following format:

- Hard copy on white, 8.5" x 11" paper
- One-inch margins on all sides
- Minimum 11-point font
- Paragraph formatting may not be more compact than standard single space
- Spiral-bound (3-ring binders are also acceptable; no paper clips or folders, please)

There is no minimum length for an application. *There are, however, strict limits on the maximum number of pages:*

- Narrative: maximum of 50 pages
- Attachments: maximum of 50 pages,

There is ample opportunity to develop a high quality application within these boundaries.

Application Deadline and Submission Requirements

The application package should include the following:

- Six spiral-bound copies
- One *clearly labeled,* unbound original copy
- An electronic version of the application (MS Word or compatible format) on either a CD or USB-compatible flash drive (only attachments easily transferable to disk need to be included electronically)

The full Application must be received by our office no later than 5 p.m. on the date of the deadline. Please mail or hand-deliver the application package to:.

SPONSOR NAME AND ADDRESS

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NATIONAL ASSOCIATION OF CHARTER SCHOOL AUTHORIZERS

Application Requirements Checklist

All applicants are required to complete and submit a full Application (six spiral-bound hard copies, one unbound hard copy, and an electronic copy (MS Word or compatible format) on a CD or flash drive) detailing the proposed charter school's educational, organizational and business plans.

The minimum requirements for submission of a complete Application package are as follows:

- ☐ Cover Sheet
- ☐ Table of Contents
- ☐ Narrative, not to exceed 50 pages
- ☐ Exhibits
  - Articles of Incorporation
  - Corporate Bylaws
  - Not for Profit Documentation
  - Governing Board resumes and questionnaire responses (See Appendix 1 for the questionnaire that must be completed by each prospective board member)
  - Governing board background checks or assurances
  - Organizational Chart
  - Position descriptions for key leadership positions
  - Education Service Provider background information (if applicable)
  - Education Service Provider list of Missouri schools (if applicable)
  - Executed educational services contract or template (if applicable)
  - Budget for the charter term
  - Cash flow analysis for first fiscal year of operation

For more information on application submission, please refer to the *Application Components and Guidelines* section of this document.

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Missouri Charter School Application Cover Sheet *Page 1 of 2*

NAME OF PROPOSED CHARTER SCHOOL

NAME OF NOT-FOR-PROFIT 501(C)(3) ORGANIZATION THAT WILL HOLD THE CHARTER

PRIMARY CONTACT PERSON

TITLE/RELATIONSHIP TO NOT-FOR-PROFIT ORGANIZATION

MAILING ADDRESS

TELEPHONE (PRIMARY)

TELEPHONE (SECONDARY)

EMAIL ADDRESS

EDUCATION SERVICE PROVIDER (IF APPLICABLE)

PARTNER ORGANIZATION (IF APPLICABLE)

PHYSICAL ADDRESS OF SCHOOL (IF KNOWN)

DISTRICT IN WHICH THE SCHOOL WILL BE LOCATED

INTENDED OPENING DATE (SCHOOL YEAR: E.G. FALL OF 20--)

PROPOSED CHARTER TERM (NO FEWER THAN 5 AND NO MORE THAN 10 YEARS) YEARS

ENROLLMENT PROJECTIONS (*IF APPLICABLE)

	GRADE LEVEL	PROJECTED ENROLLMENT		GRADE LEVEL	PROJECTED ENROLLMENT
SCHOOL YEAR 1			SCHOOL YEAR 6 *		
SCHOOL YEAR 2			SCHOOL YEAR 7 *		
SCHOOL YEAR 3			SCHOOL YEAR 8 *		
SCHOOL YEAR 4			SCHOOL YEAR 9 *		
SCHOOL YEAR 5			SCHOOL YEAR 10 *		

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Missouri Charter School Application Cover Sheet *Page 2 of 2*

School Description *(150-word maximum)*

Provide a brief description of your school that includes the name, the mission, grades served and other information you would like to include in a brief communication of this type. Your description will be used by the sponsor to provide information to the public about applicants and, for approved schools, new charter schools.

Application Certification

I certify that I have the authority to submit this application and that all information contained herein is complete and accurate. I recognize that any misrepresentation could result in disqualification from the application process or revocations after award. The person named as the contact person for the application is so authorized to serve as the primary contact for this application on behalf of the organization.

Signature	
Date	
Printed Name	

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A. Education Plan

The Education Plan should define what students will achieve; how they will achieve it; and how the school will evaluate performance. It should provide a clear picture of what a student who attends the school will experience with respect to educational climate, structure, assessment and outcomes.

A.1. Mission, Vision and Educational Philosophy
A.2. Curriculum and Instruction
A.3. Career Education*
A.4. School Calendar and Daily Schedule
A.5. Target Population
A.6. Special Student Populations
A.7. School-Specific Goals and Objectives
    A.7.1. Comprehensive Performance Measures*
A.8. Assessment
A.9. School Climate and Discipline

* *Denotes Sections Required Only of Certain Applicants*

EDUCATION PLAN

A.1 Mission, Vision and Educational Philosophy

Applicant Instructions

State the school's mission and briefly present your vision for how the school will operate. Describe the school's educational foundation and the culture or ethos. Include an overview of the instructional methods and any research or experience that indicates why you have chosen to use this approach with your anticipated student population.

Evaluation Criteria

A response that meets the standard will

- Present a compelling 1-2 sentence mission statement that defines the purpose of the school;
- Identify the school's philosophical approach to educating students – ensure that priorities are meaningful, manageable and measurable, and focus on improving student outcomes; and
- Present a coherent vision of what the school will look like in 5-10 years if it is achieving its mission.

STATUTORY REFERENCE(S): § 160.405.1

EDUCATION PLAN

A.2 Curriculum and Instruction

Applicant Instructions

Provide a description of the curriculum to be used by the school, including measurable objectives and subject area content and skills for each grade level. Show how the curriculum aligns with the Missouri Show-Me Standards and Grade Level Expectations (GLEs). Discuss the specific instructional strategies that will be relevant or necessary to successful implementation of the curriculum. Discuss how curriculum and instruction needs are reflected in plans for professional development.

For core subjects, include sample lessons from two different grade levels that illustrate strategies for implementation of the curriculum consistent with the mission and educational philosophy.

Evaluation Criteria

If the school intends to use curricula that have already been developed, a response that meets the standard will

- Be consistent with the school's mission, education program design;
- Present a clear and coherent framework for teaching and learning -- particularly in core academic areas -- and will demonstrate alignment with Missouri Show-Me Standards and GLEs;
- Demonstrate understanding of relevant instructional strategies; and
- Present a coherent framework for professional development that is likely to support effective implementation of the curriculum.

If the school intends to develop core curricula following approval, a response that meets the standard will

- Present a viable plan for development of the curricula for core academic areas and for ensuring alignment with Missouri Show-Me Standards and GLEs;
- Describe the framework for development of the curricula for core subjects; and
- Identify a sound research, experience or theoretical base and foundational materials that will guide curriculum development; and
- Present a coherent framework for professional development that is likely to support effective development and implementation of the education program.

STATUTORY REFERENCE(S): § 160.405.1(2).

EDUCATION PLAN

A.3 Career Education *if applicable*

Applicant Instructions

Applicants who intend to operate career education programs must complete the Application for Approval of Career Education Programs. Specifically, the applicant should present the following:

- Provide the rationale for the program. Include results of community-based assessments, student interest survey data, advisory committee recommendations, and needs identified by business and industry/employment outlook. Note: The student interest survey data must be derived from Missouri Connections or a similar student interest assessment.
- List the program goals and objectives in measurable terms.
- Provide a topical outline of major units of instruction in the proposed program.
- Identify program instructional contact hours, course sequence, and grade levels (if applicable).
- Identify major methods of instructional delivery (laboratory, classroom, project-based, problem-based, etc.).
- Identify the Career and Technical Student Organization and describe how it will be used to support curriculum, instruction, and assessment.
- Identify postsecondary partners and/or business/apprenticeship partners. Provide a brief summary of possible postsecondary articulation agreements/dual credit agreements and/or partnership agreements that will be put in place once program/course is operational.
- Identify and describe opportunities for assisting students in transitions to the workplace or continued education through such activities as experiential education, cooperative education, internships, apprenticeships, job shadowing, and job placement.
- Identify the assessment plan to measure student progress including competency achievement.
- Identify the plan for evaluating the effectiveness of the program, including evaluation instrument(s) used, methods of evaluation, and how results will be used for program improvement. For secondary level programs, identify the process for including program improvements in the overall district Comprehensive School Improvement Plan (CSIP).

Evaluation Criteria

A response that meets the standard will:

- Present a compelling rationale consistent with business and industry needs, student interests, and advisory committee recommendations;
- Present measureable program goals and objectives;
- Present learning objectives, content, credits and skills appropriate for the anticipated student populations, that are aligned with Show-Me Standards, Grade Level Expectations (GLEs) and appropriate business/industry standards;
- Include a convincing plan for transitioning students to work, further training, or higher education;
- A complete assessment plan to measure student progress; and
- A complete plan for evaluating the effectiveness of the program.

In addition to the items listed above, schools seeking funding under the Carl D. Perkins Career and Technical Education Act of 2006 must have the previously mentioned items plus:

Affirmation that a local plan will be submitted and will adhere to all the rules and regulations of the Act and will meet the core indicators of performance:

EDUCATION PLAN

A.3 Career Education (continued) *if applicable*

- Attainment of challenging academic content standards and academic achievement standards;
- Attainment of career and technical skill proficiencies;
- Attainment of a secondary diploma or equivalency, a proficiency credential, certificate, or degree in conjunction with a secondary school diploma;
- Graduation rates;
- Placement in postsecondary education or advanced training, in military service, or in employment; and
- Participation in and completion of career and technical education programs that lead to non-traditional fields.

STATUTORY REFERENCE(S): 160.405.2

EDUCATION PLAN

A.4 School Calendar and Daily Schedule

Applicant Instructions

Present the school calendar showing the number of days the school will be in session and sample daily class schedules showing daily hours of operation and allocation of time for core instruction, supplemental instruction, extra-curriculars, and after-school activities, as applicable.

Required Exhibits

- ☐ Sample Daily Schedule for one grade in each division at which the school intends to operate (elementary, middle and/or high school)
- ☐ Annual Calendar for the first year of operation

Evaluation Criteria

A response that meets the standard will

- Satisfy the requirement for a full school term as defined in Mo. Rev. Stat. § 160.011;
- Comply with minimum requirements for the number of school days and hours pursuant to Mo. Rev. Stat. § 160.041;
- Align with the school's educational mission and goals; and
- Provide, in advance, for the make up of a minimum of six inclement weather closure days pursuant to Mo. Rev. Stat. § 171.033.2.

STATUTORY REFERENCE(S): § 160.405.1; 160.405.5(2); 160.041

EDUCATION PLAN

A.5 Target Population

Applicant Instructions

The section on the Target Population should include a completed Anticipated Enrollment Table for each year of the school's proposed charter. It should describe the anticipated population of the school and should explain how the proposed mission, curriculum, teaching methods and services align with the educational needs of that population.

Dropout and At-Risk Populations
Missouri sponsors are required to grant at least one-third of charters to schools that actively recruit dropouts or high-risk students as their student body. A "high-risk" student is one who is at least one year behind in satisfactory completion of course work or obtaining credits for graduation, pregnant or a parent, homeless or has been homeless sometime within the preceding six months, has limited English proficiency, has been suspended from school three or more times, is eligible for free or reduced-price school lunch, or has been referred by the school district for enrollment in an alternative program. To the extent that the applicants intend to serve a high dropout and/or at-risk population, the response should focus on this group, in particular.

Evaluation Criteria

A response that meets the standard will

- Present evidence to indicate that the enrollment projections by grade and school-wide for each year of the charter are realistic; and
- Demonstrate a clear understanding of the students the school intends to and is likely to serve;
- Present a persuasive explanation of how the proposed mission, curriculum, teaching methods and services are likely to meet the needs of the target population

STATUTORY REFERENCE(S): § 160.405.2(4)

EDUCATION PLAN

A.6 Special Student Populations

Applicant Instructions

Describe the school's plan for educating children with special needs, particularly those with limited English proficiency and those identified with disabilities. Explain specifically how these students will be identified, how the school will develop plans for their education, how their progress will be monitored, and how the school has budgeted and staffed to meet those responsibilities. In addition, explain how the school's curriculum and approach to instruction will be designed or adapted to serve those students.

Evaluation Criteria

A response that meets the standard will

- Demonstrate understanding of and capacity to meet state and federal requirements regarding identification and education of the likely ELL population;
- Demonstrate understanding of and capacity to meet state and federal requirements regarding the identification and education of students with disabilities;
- Indicate a commitment to serving the full range of needs of students with disabilities; and
- Indicate a commitment to serving the full range of needs of special education students.

STATUTORY REFERENCE(S): § 160.405.1(2).

EDUCATION PLAN

A.7 School-Specific Goals and Objectives

Applicant Instructions

Like all public schools, charter schools are subject to state accountability requirements. For all approved schools, the charter contract will include a set of core educational performance expectations that reflect state accountability requirements and the Sponsor's Performance Expectations outlined in the Missouri Monitoring and Renewal Framework. In addition to those standard requirements, most schools have goals that are particular to the school's educational philosophy and organizational priorities.

Identify two key academic goals and one non-academic goal for which the school plans to hold itself accountable. Explain how those performance standards align with the school's mission, the proposed educational program, the statewide accountability system, and the well-developed school-specific goals will have the following characteristics:

- Specific
- Measurable (based on identified indicators and expected performance levels and a reliable measurement instrument)
- Ambitious and attainable
- Relevant (to your mission)
- Time-bound

Following are examples of performance goals.

Example 1: Student Gains
At all grade levels, students at the Charter School will average 1.1 years of academic growth as measured by multiple administrations of a nationally norm-referenced growth-measured exam.

Example 2: Performance Status
(Percentage) of students enrolled at the Charter School for a three consecutive year period will achieve Proficient or Advanced status on the state's annual MAP Test assessment.

Example 3: Student Re-enrollment (Non-academic)
The Charter School will retain (percentage) of its enrolled students year-to-year during its first three years of operation.

Example 4: Parent Satisfaction (Non-academic)
The Charter School will demonstrate a (percentage) overall satisfaction rating in an annual survey administered to parents or designated legal guardians of students attending the school during each academic year.

Evaluation Criteria

A response that meets the standard will:

- Align with the school's mission and educational program;
- Define goals and objectives that are specific, measurable, ambitious and attainable, relevant and time-bound;
- Align with the Sponsor's Performance Expectations outlined in the Missouri Monitoring and Renewal Framework;
- Set high standards for student learning; and
- Present clear criteria for promotion from one level to the next, and for graduation.

STATUTORY REFERENCE(S): § 160.405.1(1); 160.405.1(4); 160.405.5(6).

EDUCATION PLAN

A.7.1 Comprehensive Performance Measures

optional for high-risk and alternative schools

Applicant Instructions

Missouri's charter school law places a priority on meeting the needs of high-risk and alternative populations. Such schools will be held to the same performance standards as other schools, but students in those schools may meet performance standards on a different time frame.

Applicants proposing to operate an alternative charter school or one serving high-risk students in which students may propose comprehensive school-specific academic and behavioral measures.

Describe the comprehensive academic and behavioral measures that the school proposes to use. Explain how those measures align with the school's mission, the proposed educational program, and the statewide accountability system.

If approved, the comprehensive measures will be used in addition to standardized public school measures to evaluate school performance.

Evaluation Criteria

A response that meets the standard will

- Present performance measures that are a valid and reliable means for determining whether students are meeting performance standards;
- Ensure that the school will be held to the same performance standards as other schools; and
- Be specific about the time frame in which students will be expected to meet the performance standards.

STATUTORY REFERENCE(S): § 160.405.5(6)(b).

EDUCATION PLAN

A.8 Assessment

Applicant Instructions

Describe the school's approach to assessment. Explain how the school will evaluate progress of individual students, cohorts over time, and the school as a whole toward meeting the statewide requirements. In particular, describe how the school will determine proficiency (by grade, achievement level, or grouping level) for mathematics, communication arts and one other subject area on an interim basis. For high school courses, what is the school's plan for developing and using end of course assessments?

What are the school's policies and criteria for promoting students to the next level and for graduation from the school?

How will the school use assessment information to modify the educational program and improve instruction, student learning and staff development?

Evaluation Criteria

A response that meets the standard will

- Align with the school's mission and overall educational priorities;
- Demonstrate understanding of the school's obligation to participate in the statewide system of assessment and accountability;
- Present a clear, credible, and sound plan for measuring and reporting the educational performance and progress of individual students, cohorts, and the charter school as a whole including valid and reliable measures of student outcomes;
- Explain how the school will use assessment data to drive key decisions aimed at improving academic outcomes; and
- Demonstrate understanding of and commitment to compliance with assessment requirements applicable to all Missouri public schools consistent with state law and relevant policies of the State Board of Education including the MAP and end of course exams, as applicable.

STATUTORY REFERENCE(S): § 160.405.1(2); 160.405.5(6); 160.518

EDUCATION PLAN

A.9 School Climate and Discipline

Applicant Instructions

Describe the strategies the school will employ to develop and sustain a safe and orderly school climate that supports fulfillment of the educational goals. Explain the school's student behavior philosophy and discipline policy or code of conduct for both the general student population and for students with special needs. The full discipline policy should be included as an attachment if already developed.

Explain how the school will encourage family involvement and communication to support student learning, and how it will gauge satisfaction with school climate.

Evaluation Criteria:

A response that meets the standard will

- Describe an approach to student discipline that is reasonably likely to promote a safe and orderly learning environment; and
- Present legally sound policies for student discipline, suspension, dismissal and expulsion or a reasonable plan for their development; and
- Outline a clear strategy for engaging parents and guardians in the life and culture of the school; and
- Include evidence that the school will ensure a safe environment conducive to learning

STATUTORY REFERENCE(S): § 160.405.1(6)

B.Organizational Plan

The Organizational Plan should provide an understanding of how the school will be operated, beginning with its governance and management. It should present a clear picture of the school's operating priorities, delegation of responsibilities, and relationships with key stakeholders.

B.1. Governing Body
B.2. Governing Board Composition
B. 3. Management And Operation
    B. 3.1. Education Service Providers*
B. 4. Staffing And Human Resources
    B. 4.1. Four-Year College And/Or University Affiliation*
B. 5. Student Recruitment And Enrollment
B. 6. Community Involvement
    B. 6.1. Joint Application*

* *Denotes sections required only of certain applicants*

ORGANIZATIONAL PLAN

B.1 Governing Body

Applicant Instructions

Describe the entity that will hold the charter and be responsible for governing the school. Provide documentation of the entity's legal status including Articles of Incorporation, Bylaws and documentation of legal not-for-profit status.

To the extent that the organization exists and has functions independent of the operation of the proposed school, provide a brief description of the organization, its history, its current operation, and the relationship between its existing operations and the proposed school.

Required Exhibits

- ☐ Articles of Incorporation
- ☐ Corporate By-laws
- ☐ Documentation that the applicant is a Missouri nonprofit corporation and has applied for and/or received not-for-profit status from the Internal Revenue Service
- ☐ Documentation of criminal background checks for all prospective board members or assurance of satisfactory completion as a condition of service
- ☐ Documentation of child abuse registry checks for all prospective board members or assurance of satisfactory completion as a condition of service

Evaluation Criteria

A response that meets the standard will

- Present proper documentation that the entity proposing to hold the charter is a Missouri nonprofit corporation;
- Documentation of LEA status, if applicable, and
- In the case of pre-existing organizations, demonstrate that the operation of the proposed school is consistent with the organization's overall mission and operation.

STATUTORY REFERENCE(S): § 160.400.5; 160.400.11; 160.405.1(5); 160.405.2(1)

ORGANIZATIONAL PLAN

B.2 Governing Board Composition

Applicant Instructions

List the members of the proposed governing board including their names, current employment, and relevant experience or qualifications for serving on the board, including, but not limited to, their relationship to the community in which the school will be located.

For each proposed governing board member, the application should include, as an attachment, a resume or CV, and the completed form labeled *Appendix 1: Request for Information from Prospective Charter School Board Members.*

Describe any specific plans for recruitment of additional governing board members, including, but not limited to, plans that would involve parental, professional educator or community involvement in the governance of the school.

Required Exhibits

- ☐ Prospective Board Member Resumes or CVs
- ☐ Completed form labeled *Appendix 1: Request for Information from Prospective Charter School Board Members* for all prospective board members

Evaluation Criteria

A response that meets the standard will indicate that the board

- Has capacity to oversee the successful development and implementation of the education program presented in the application;
- Has capacity to oversee the effective and responsible management of public funds;
- Has capacity to oversee and be responsible for the school's compliance with its legal obligations;
- Will represent the community well;
- Is aware of their duties and responsibilities as public servants in accordance with RSMo section 105.450; and
- Will generally have the capacity to found and sustain a quality school.

STATUTORY REFERENCE(S): § 160.405.1(5); 160.405.2(1); 105.450

ORGANIZATIONAL PLAN

B.3 Management and Operation

Applicant Instructions

Describe the organizational structure of the school and its day-to-day operation. Explain the management roles and responsibilities of key administrators with respect to instructional leadership, curriculum development and implementation, personnel decisions, budgeting, financial management, legal compliance, and any special staffing needs.

Your response should describe the primary responsibilities for each key management position and should identify critical skills or experience that will be priorities for fulfillment of those responsibilities. Give particular attention to the roles, responsibilities and actual (if already identified) or desired qualifications of the school leader. Discuss any plans for recruiting and selection of the school leader if no already identified.

Required Exhibits

- ☐ Organizational Chart that shows the staffing structure and reporting responsibilities for the board, administration and staff
- ☐ Key position descriptions including critical skills or experience every employee that they intend to hire based on organizational chart (description can be general for core teachers). Qualifications for hiring should provide assurance that background checks and child abuse registry will be conducted for every employee in accordance with the law.

Evaluation Criteria

A response that meets the standard will include

- Clear delineation of the roles and responsibilities for administering the day-to-day activities of the school;
- Demonstrated understanding of management needs and priorities; and
- A staffing plan that appears viable and adequate for effective implementation of the proposed educational program.

STATUTORY REFERENCE(S): § 160.405.1(5)

ORGANIZATIONAL PLAN

B.3.1 Education Service Providers

All applicants are asked to declare whether they intend to contract with an education service provider (ESP). The term "education service provider" refers to any number of organizations that contract with the governing board of a school to provide comprehensive services. The major types of ESPs that serve charter schools are education management organizations (EMOs), charter management organizations (CMOs), and comprehensive school design providers.

After making the initial declaration, applicants should complete the remainder of the section only if the school expects to contract with an ESP. Other applicants should proceed directly to the next section, Community Involvement.

Applicant Instructions

Select the statement that is applicable and proceed as directed:

- We intend to contract with an education service provider. *Continue with completion of this section.*
- We do not intend to contract with an education service provider. *Skip to the next section.*

If the school expects to contract for services with an education service provider, discuss the school's decision to work with an ESP, in general, and the selected ESP, in particular. Describe the planned relationship between the school and the ESP and how that relationship will further the school's mission and program. Provide a clear description of the services to be provided by the ESP. Describe the ESP's roles and responsibilities in relation to the school's management and governing board. Describe the school's performance expectations for the ESP. In other words, how will the school evaluate ESP performance?

Required Exhibits

- ☐ Background information on the ESP including relevant performance data for other schools that the ESP has managed
- ☐ A list of any other schools managed by the ESP in the state of Missouri with contact information
- ☐ The services agreement as executed between the school and the ESP (or template version if not yet executed)

Evaluation Criteria

The response should present a clear picture of the contractual relationship and accountability between the ESP and the school's governing board that is consistent with the school's mission and educational program.

A response that meets the standard will present

- A persuasive explanation of the reasons for contracting with an education service provider, in general, and this provider, in particular;
- A sense of how the proposed relationship with the ESP will further the school's mission and program;
- A clear description of the services to be provided by the ESP;
- A coherent delineation of the roles and responsibilities between the school's governing board, management and the ESP; and
- ESP performance expectations that are consistent with the school's accountability requirements and the means by which the board will hold the ESP accountable for meeting those expectations.

STATUTORY REFERENCE(S): § 160.405.1(5)

ORGANIZATIONAL PLAN

B.4 Staffing and Human Resources

Applicant Instructions

Discuss the staffing plan for the term of the charter including anticipated staffing needs and recruitment strategies. Discuss how the plan supports sound operation and successful implementation of the school's educational program.

Describe the instructional skills, experience, and development that teachers will need to have in order to be successful. How are those needs reflected in the plan for teacher recruitment?

Include a draft of a Staff Handbook or Employment Manual if developed. In responding to this section, consider the following questions:

- What strategies does the school have for recruiting and retaining effective teachers?
- How do the staffing-related budget assumptions align with educational program needs?
  How does the staffing plan reflect the anticipated enrollment and growth of the school?
- How will the school determine appropriate experience, training and skills of non-certificated instructional personnel?
- What will be the employer-employee relationship for staff at the school?

Evaluation Criteria

A response that meets the standard will

- Present strategies for recruiting and retaining effective teachers that are realistic and reasonably likely to be effective;
- Demonstrate a sound understanding of staffing needs that are aligned with the budget and with the school's anticipated enrollment;
- Demonstrate a sound understanding of staffing needs with respect to successful implementation of the educational program; and
- Present a plan that is reasonably likely to attract and retain effective staff.

STATUTORY REFERENCE(S): § 160.415

ORGANIZATIONAL PLAN

B.4.1 Four-Year College and/or University Affiliation

A college or university affiliation is not required for a charter school. Applicants should respond to and be evaluated on this section only if they propose to have a college or university affiliation.

Applicant Instructions

Discuss any affiliation that the school intends to have with a four-year college or university, including a private college or university, or a community college. Address the specific purpose(s) of the affiliation including teacher training and staff development, curriculum and assessment development, use of physical facilities, or other purposes beyond sponsorship duties.

Describe your plans for developing the affiliation and any steps already taken. Include evidence that you are likely to be successful in establishing the proposed affiliation such as letters of support or other documentation of commitment from the college or university.

Evaluation Criteria

A response that meets the standard will

- Present a clear plan for college or university affiliation that is aligned with and likely to further the school's mission;
- Demonstrate a substantial likelihood that the school will be successful in establishing the proposed affiliation; and
- Demonstrate that the college or university has the capacity and commitment to fulfill its anticipated role.

STATUTORY REFERENCE(S): § 160.405.8.

ORGANIZATIONAL PLAN

B.5 Student Recruitment and Enrollment

Applicant Instructions

In the table provided, enter enrollment projections for the school, by year, for the first five years of operation.

Describe the plan for recruitment and enrollment of students. Explain how the school will be publicized and marketed throughout the community to a broad cross-section of families and prospective students. What strategies will you use to reach families that are traditionally less informed about educational options?

Include an explanation and evidence to support the enrollment projections. Relevant evidence may include, among other things, the following:

- Community demographic information (numbers of potential students);
- Documentation of community or family demand for the proposed school such as letters of intent to enroll; and
- Enrollment data from schools currently operating in community.

Describe the proposed enrollment process and provide assurances that the charter school will comply with the requirements of section 160.410, Rev. Stat. Mo.

If the charter school intends to establish admissions preferences based on a geographical area aoround the school, sibling enrollment in the school, parent employment at the school, or – in the case of a workplace charter – parent employment in the business district or business site of the school, provide a clear description of the proposed preference and how it will apply in the event that capacity is insufficient to enroll all pupils who submit a timely application.[1]

Evaluation Criteria

A response that meets the standard will

- Include an outreach and recruitment plan that demonstrates understanding of the community to be served and is likely to be effective including for families traditionally less informed about educational options;
- Present enrollment projections that are supported by evidence of actual or potential demand; and
- Include enrollment and admissions policies and plans that comply with the requirements of section 160.410.

STATUTORY REFERENCE(S): § 160.410

[1] *Specific attendance limitations apply for charter schools sponsored in Kansas City and St. Louis. In Kansas City, a parent must be resident in the district. In St. Louis, a parent needs to meet residency or non-minority or non-minority requirements depending on the county. Sponsors receiving applications for Kansas City and St. Louis should consult legal counsel or the Department of Elementary and Secondary Education for charter school enrollment guidance.*

ORGANIZATIONAL PLAN

B.6 Community Involvement

Applicant Instructions

Discuss your plans for community involvement in the governance and operation of the school. Describe the nature of potential partnerships including examples of how community partners will play an integral part in the life of the school and identify specific organizations with which the school is already working, or likely to partner.

Describe your plans for developing community partnerships and any specific steps you have already taken. Include in your response relevant documentation such as letters of support or commitments to provide or share resources.

Evaluation Criteria

A response that meets the standard will

- Present a vision and strategy for community involvement that is reasonably likely to further the school's mission and program; and
- Provide evidence that anticipated partnerships are realistic and achievable.

STATUTORY REFERENCE(S): § 160.405.1(5); 160.420.5

ORGANIZATIONAL PLAN

B.6.1 Joint Application

The following section should be completed if, pursuant to section 160.400.8, Rev. Stat. Mo., the school proposes to be affiliated with a college, university, museum, educational institution, other not-for-profit organization, or other partner that is not an educational service provider. Applicants that do not plan to have such an affiliation should proceed directly to Part C, Business Plan.

Applicant Instructions

If you are proposing to affiliate with a college, university, museum, educational institution, other not-for-profit entity, or any other partner, describe the rationale for the affiliation, the benefit that the school expects to receive from the partnership, and provide the following information for each affiliated organization:

- Name of the organization;
- A letter of intent or commitment from a bona fide representative of the partner organization indicating that the organization is undertaking the affiliation and the terms and extent of the undertaking;
- The name of a contact person for the partner organization; and
- Contact information (address, phone number, facsimile number, and e-mail address) for the contact person at the affiliated organization;
- A description of the nature and purpose of the proposed affiliation including the specific purpose(s) for the affiliation (e.g., teacher training and staff development, curriculum and assessment, access to physical facilities, etc.).

Evaluation Criteria

A response that meets the standard will

- Include complete information about each affiliated partner;
- Provide documentation regarding the terms of the joint partnership;
- Present persuasive evidence that the plan for the affiliation is sound and that the purpose(s) is/are likely to support achievement of the school's mission.

STATUTORY REFERENCE(S): § 160.400.8

C. Business Plan

The Business Plan should provide an understanding of how the applicants intend to develop and manage the school's infrastructure and finances. It should present a clear picture of the school's revenue projections; expenditure requirements; facilities needs; transportation and food service plans; and pre-opening plan.

C.1. Budget
C.2. Financial Management
C.3. Facility
C.4. Transportation
C.5. Insurance
C.6. Pre-Opening Plan

BUSINESS PLAN

C.1 Budget

Applicant Instructions

Use the *Charter School Budget Template* (Appendix B) to detail the school's estimated revenues and expenditures for the proposed term of the charter including the pre-operational startup year.

Provide a cash flow analysis for the first fiscal year of operation (July 1–June 30).

Include explanation and discussion of key budget assumptions underlying the budget projections and explain how the budget aligns with and supports implementation of the educational program. If the school anticipates incurring debt for any reason, such as for acquisition of its facility, the budget must address the schedule for debt repayment and the budget discussion should elaborate on the repayment assumptions and plan.

Discuss the school's contingency plans for cash flow challenges, a budget shortfall, lower than expected student enrollment or other financial challenges in the early years of operation?

Required Exhibits

- ☐ Budget for the proposed charter term
- ☐ Opening year cash flow analysis

Evaluation Criteria

A response that meets the standard will

- Present budget priorities that are consistent with and support key parts of the plan, including the school's mission, educational program, staffing and facility;
- Present realistic, evidence-based revenue and expenditure assumptions, including for any plan to incur and repay debt;
- Present viable strategies for meeting potential budget and cash flow challenges, particularly for the first year of operation; and
- Demonstrate a commitment to maintaining the financial viability of the school.

STATUTORY REFERENCE(S): § 160.405.1; 160.415.11

BUSINESS PLAN

C.2 Financial Management

Applicant Instructions

Describe the systems and procedures for managing the school's finances and identify the staff position(s) that will be responsible for financial oversight and management. Describe how the school's finances will be managed and who will be responsible for the protection of student and financial records. Your response should address, among other things, the school's plans in the following areas:

- Provisions for an annual audit consistent with its LEA status;
- Development and dissemination of an annual financial report; and
- Providing recommended liability insurance to indemnify the school, its board, staff and teachers against tort claims.

Evaluation Criteria

A response that meets the standard will

- Demonstrate understanding of the school's financial management obligations;
- Present evidence that the school is prepared to adhere to generally accepted accounting practices and the Missouri Financial Accounting Manual;
- Present evidence that the school will has or has capacity to develop adequate policies and processes for tracking enrollment and attendance eligibility, eligibility for free and reduced priced lunch; special education and limited English proficient enrollment; and
- Demonstrate preparation to meet its insurance, annual audit, annual financial report and other key financial management obligations.

STATUTORY REFERENCE(S): § 160.405.1; 160.405.5(4)

BUSINESS PLAN

C.3 Facility

Applicant Instructions

Discuss the school's facility needs based on the educational program and anticipated enrollment. If the applicants have identified a facility, indicate the location (street address, city, and zip code) and provide either floor plans or a description including, at a minimum, the number and size of the classrooms, common areas, administrative areas, recreational space, any community facilities, and any residential facilities. Explain how the facility will meet the needs of students and provide an assurance that it will be accessible to students with physical disabilities.

To the extent that the school has discussed or established specific lease or purchase terms, include discussion of the proposed terms and any draft agreements. If the school intends to lease facilities from a school district, pursuant to section 160.405.9, discuss the status of those plans and provide evidence of any district commitments.

To the extent that the facility will require renovation or 'build out,' describe those plans including anticipated timing and cost.

If the school anticipates incurring debt as part of its facilities acquisition plan, the budget must include a repayment plan, as indicated in the Budget section, above.

If a facility has not been selected, specify potential locations that are under consideration and discuss the process and time line for selecting, acquiring, renovating (if appropriate) and taking occupancy of a suitable facility.

Evaluation Criteria

A response that meets the standard will

- Reflect a sound understanding of facilities needs;
- Demonstrate knowledge of facilities costs including, as applicable, cost of purchasing, leasing, building, or renovating an educational facility that conforms to applicable health, safety, and occupancy requirements;
- Present evidence to support facilities-related budget assumptions;
- Include evidence that the proposed facility will be adequate or present a plan for securing a facility that is appropriate and adequate for the school's educational program, anticipated location, and target population; and
- Demonstrate that the school's plan for acquisition of a facility is financially viable.

STATUTORY REFERENCE(S): § 160.405.5(2),(4)

BUSINESS PLAN

C.4 Transportation

Applicant Instructions

State whether the school intends to provide transportation for students. If so, describe the transportation plan and explain budget revenue and expenditure assumptions including those related to anticipated state aid pursuant to section 163.161 R.S.Mo.

If the school intends to contract with the local district or any other third party for transportation services, discuss the status of those plans and provide evidence of the third party's readiness and terms for providing those services.

Evaluation Criteria

If the applicants have elected to provide transportation, a response that meets the standard will

- Present a thorough, realistic, and cost-effective transportation plan; and
- Provide specific evidence of third party readiness and terms for providing transportation services consistent with the school's budget assumptions. 3rd party must collect required information [include in application].

If the applicants have elected not to provide transportation, a response that meets the standard will

- Present a clear statement of the school's intent not to provide transportation services;
- Describe viable transportation options for students; and
- Describe contingency plans for students requiring transportation due to a physical disability.

Evaluation Note
With the exception of related services required under an Individualized Education Plan, charter schools are not required to provide transportation for students to and from the school.

STATUTORY REFERENCE(S): § 160.415.8.

BUSINESS PLAN

C.5 Insurance

Applicant Instructions

Provide evidence of ability and preparation to obtain liability insurance coverage (minimum A-BEST rating) in the following areas:

- Directors' and Officers' Liability
- Commercial General Comprehensive Liability that also expressly covers corporal punishment and athletic participation
- Educators' Legal Liability
- Employment Practices Liability
- Sexual Abuse Liability (separate policy or a separate part of general comprehensive insurance with independent limits)
- Automobile Liability
- Excess Liability or Umbrella (i.e., bundled commercial general liability, directors' and officers' liability, legal liability, employment practices liability, automobile liability, and sexual abuse liability)
- Workers Compensation Liability
- Surety bond for the school's chief financial officer in an amount to be determined based on the cash flow of the school.

Include evidence to support the budget expense assumptions related to insuring the schools such as copies of broker or agency estimates.

Evaluation Criteria

A response that meets the standard will

- Evidence of requisite insurance coverage or ability to obtain requisite insurance coverage
- Evidence of requisite surety bond for school CFO or ability to obtain requisite surety bond

STATUTORY REFERENCE(S): § 160.405.11; 160.405.13.

BUSINESS PLAN

C.6 Pre-Opening Plan

Applicant Instructions

Provide a Pre-Opening Plan that documents key tasks to be completed between approval of the application and opening of the school. Include a schedule for initiation, development and completion those tasks, identify primary responsibility by individual or position, and document anticipated resource needs.

Evaluation Criteria

A response that meets the standard will demonstrate understanding of key pre-opening responsibilities consistent with the school's education, organizational and business plans.

STATUTORY REFERENCE(S): § 160.405.5.

Appendices

Appendix 1:
Request for Information from Prospective Charter School Board Members

Appendix 2:
Frequently Asked Questions about Charter Schools

Appendix 1:
Request for Information from Prospective Charter School Board Members[2]

Instructions

The Applicant's proposed governing board members are required to provide a current resume detailing their qualifications and experiences and respond to the Request for Information that follows. *Please be sure to submit these items together for each board member. Information on a proposed board member will not be considered unless complete information (resume and completed Request for Information) is provided.*

Request for Information from Prospective Charter School Board Members

Governing a public charter school requires commitment and responsibility. The governing board will be ultimately responsible for the sound education of all children enrolled in the school and for the responsible use of the public funds that the school receives. Your desire to serve on a charter school board indicates a belief in and commitment to quality public schools for all children. It also indicates a willingness to serve as a public official. As a charter school sponsor, we recognize the significance of those commitments and appreciate your willingness to take on the accompanying responsibility.

If the application is approved, the board will enter into a charter contract that establishes the terms under which the school will operate. Therefore, one purpose of the charter school application is to provide the sponsor a sense of the board's capacity to govern the school effectively. With that purpose in mind, *each prospective board member should respond to this request for information.*

I. Background

1. Describe your educational and employment history. You may complete this item by attaching a resume.
2. If true, please affirm that you will be at least eighteen years old by January 1 of the year in which the proposed charter school would open.
3. How did you become aware of the proposed charter school and the opportunity to serve as a member of its board?
4. Explain why you would like to serve on the board.
5. Have you previously served on a board of a school district or a not-for-profit corporation (including the board of a parochial or independent private school)? If so, describe any relevant experience. If you have not had any previous service, discuss why you wish to serve in this capacity.
6. What is your understanding of the appropriate role of a public charter school board member?
7. What relevant knowledge and experience will you bring to the board?
8. Assuming the school is successful, what is your image of how the school will look towards the end of its first year? What will it be like after four years?

II. Educational Philosophy

9. What is your understanding of the school's mission and/or philosophy?
10. Are you familiar with the school's proposed educational program? How would you describe it?
11. What are the characteristics of a successful school? What specific steps do you think the board of will need to take in the first year or two to ensure that this school is successful?

Appendix 1: Request for Information from Prospective Charter School Board Members[2] (continued)

III. Conflict of Interest Disclosure

12. Do you or your spouse know any of the other prospective board members? If so, please so indicate the name of the person and the relationship.
13. Do you or your spouse have a pre-existing relationship with any people already identified as prospective school employees? If so, please so indicate and describe the relationship.
14. Do you or your spouse know anyone that plans to do business with the school? If so, please so indicate and describe the relationship and the nature of the potential business.
15. If the school proposes to partner with an educational service provider (a management company), do you or your spouse know any employees, owners, or agents of that provider? If so, please indicate the individuals you know and the nature of the relationship.
16. (If the school does not intend to partner with an educational service provider, write "N/A").
17. If the school intends to partner with an educational service provider, do you or your spouse have a direct or indirect ownership, employment, contractual or management interest in the educational service provider?
18. (If the school does not intend to partner with an educational service provider, write "N/A").
19. Do you anticipate conducting any business with the educational service provider, the school, or both? If so, describe the potential relationship.
20. Are there any potential ethical or legal conflicts of interests that you can foresee in the context of your service on the school's board? If so, explain.
21. How would you handle a situation in which you believe one or more members of the school's board to be engaged in self-dealing (i.e., making arrangements involving the school that materially benefit the board member, his or her friends or family.

[2] *Adapted from the Request for Information from Prospective Charter School Board Members developed by the Charter Schools Institute at the State University of New York for use in charter school applications.*

Appendix 2:
Frequently Asked Questions about Charter Schools

What are charter schools?

Charter schools are tuition-free public schools that are open to all families contingent on available space. They are permitted to operate with more flexibility and independence than traditional schools.

Are charter schools public schools?

Yes, every charter school is a public school.

How do charter schools differ from traditional public schools?

Charter schools differ from traditional public schools in that they are exempt from many state and school district regulations. They decide their own curriculum, staffing, organization and budget. In exchange for this autonomy, they promise to educate pupils well – meeting or exceeding Missouri's educational performance standards – or they lose the privilege of operating the school.

How are charter schools started?

Charter schools are established by a group of individuals – often teachers, principals, education experts and/or parents – that have a vision for the kind of school they would like to create. The founding group submits a plan for the school to a sponsor. Founding groups often spend a year or more planning their schools before submitting an application.

If the sponsor finds that the plan demonstrates that the group is likely to create a high quality school, the application is approved, and the applicant group prepares to open the school.

Who gets to attend a charter school?

As long as space is available, almost any pupil who applies to a charter school may attend that school provided the pupil meets the age or grade range that the school intends to serve. Enrollment is free and non-selective. Usually enrollment is limited to a specific number per grade.

Each school has a non-selective, free application process. If the number of applications exceeds the available space, the school will hold a random lottery to determine which children get to enroll.

What is a charter?

A charter is an agreement between the school's sponsor and the school that documents the school's rights and responsibilities as well as the educational outcomes that the school will be expected to attain. The charter is good for a fixed number of years, usually five. At the end of the charter term, the sponsor determines whether the school has met the terms of the agreement, particularly with respect to handling public funds responsibly, providing a safe environment and educating pupils well.

If the school has met expectations, the sponsor will renew the charter, and the school will continue to operate. If not, the charter will not be renewed, and the school will be closed.

Do charter schools serve students with special needs?

Like all public schools, charter schools are required to provide access and services to all students, including students with disabilities and those who are limited English proficient.

May a charter school be religious in nature?

No. Like all public schools, charter schools must comply with the first amendment to the U.S. Constitution that prohibits religious instruction in public education

What is a sponsor?

A sponsor is an organization that has the authority to approve and oversee charter schools. The Missouri legislature has authorized the St. Louis and Kansas City school districts to sponsor charter schools. In addition, the legislature has provided that community colleges or private four-year colleges meeting certain conditions may act as charter school sponsors in the St. Louis and Kansas City areas. A group interested in starting a charter school may apply to any eligible sponsor.

Charter Agreement

A Model Resource for Missouri Charter Public School Sponsors

DEVELOPED BY THE NATIONAL ASSOCIATION OF CHARTER SCHOOL AUTHORIZERS

nacsa

This Agreement constitutes a Charter School Contract (the "charter") executed this ____ day of _____, 20 ___ (the "Effective Date"), by and between _____, located at _____ (the "Sponsor") and _____, a Missouri nonprofit corporation located at _____ (the "Charter School" or the "School").

The Sponsor and the Charter School are referred to collectively as the "Parties."

Recital

WHEREAS, the Missouri legislature has authorized the establishment of public charter schools in a metropolitan school district or in an urban school district containing most or all of a city with a population greater than three hundred fifty thousand inhabitants; and

WHEREAS, the Sponsor has the authority to sponsor charter schools pursuant to section 160.400.2 RSMo; and

WHEREAS, the Charter School is an independent public school; and

WHEREAS, the Charter School is a nonprofit corporation, organized under chapter 355, RSMo; and

WHEREAS, the Charter School will operate within a district that meets the requirements of section 160.400.2 RSMo; and

WHEREAS, on _____, 20 ___, the Sponsor approved the proposed charter as set forth in Exhibit __ ("Charter Application").

WHEREAS, the Parties intend that this Charter serve as a contract that governs the operation of the Charter School.

NOW, THEREFORE, in consideration of the mutual covenants, representations, warranties and agreements contained herein and for other good and lawful consideration, the receipt and sufficiency of which is hereby acknowledged, the Sponsor and the Charter School agree as follows:

Part I: Establishment of the Charter School

1.1 Parties.

1.1.1 This Charter is entered into between _____ and its governing board (the "Charter School") and _____ (the "Sponsor").

1.1.2 The person authorized to sign on behalf of the Charter School is the President of the governing board ("Charter School Representative").

1.1.3 The person authorized to sign on behalf of the Sponsor is the _____ [Title].

1.1.4 The Charter School Representative affirms as a condition of this Charter, that he/she is the above-described representative of the Charter School and has authority to sign this Charter on behalf of the Charter School.

1.1.5 The Charter School shall be operated as a non-profit public benefit corporation formed and organized pursuant to Chapter 355, RSMo, section 355.025, and shall be responsible for all functions of the Charter School in accordance with the terms and conditions set forth in this Charter.

1.1.6 The Charter School certifies that all contracts obligating the charter school have been and will be undertaken by the Charter School as a nonprofit corporation and failure to act strictly as a nonprofit corporation shall be grounds for revocation of the Charter.

1.1.8 No material amendment to this Charter shall be valid without the approval of the governing board of the Charter School and of the Board of Directors of the Sponsor.

1.1.8 Charter School Governing Board.

1.1.8.1 The Charter School's governing board members shall be treated as if they were regularly and duly elected members of school boards in any public school district in the state for purposes of liability for acts while in office.

1.1.8.2 The Charter School affirms, as a condition of this Charter, that the Charter School's governing board members receive no compensation other than reimbursement of actual expenses incurred while fulfilling duties as a member of such a board.

1.1.8.3 The Charter School shall complete a criminal background check and a child abuse registry check for each prospective board member as a condition of nomination to the governing board. Upon completion of such checks, the Charter School shall promptly notify the Sponsor of the results.

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1.1.8.4 No member of the governing board shall hold any office or employment from the board or the Charter School while serving as a governing board member.

1.1.8.5 No member of the governing board shall have any substantial interest, as defined in section 105.450, RSMo, in any entity employed by or contracting with the board.

1.1.8.6 No member of the governing board shall be an employee of a company that provides substantial services to the Charter School.

1.1.8.7 The Charter School affirms, as a condition of this Charter, that it will adhere to a duly adopted conflict of interest policy, including provisions related to nepotism and consistent with the provisions of this section and of applicable law.

1.1.8.8 On or before the first day of the Charter School's fiscal year, the School shall provide the Sponsor a current list of directors and officers including their business addresses.

1.1.8.9 Notwithstanding the foregoing subsection, the Charter School shall provide the Sponsor immediate notice of any change in the composition of the Charter School's governing board directors or officers including the name, business address and resume of any new directors and officers.

1.2 Location

1.2.1 The Charter School shall provide educational services, including delivery of instruction, at the following Location:

_____

_____

_____

1.2.2 Any change in the Location shall constitute a material change to this Charter and shall require advance written Notification to the Sponsor.

1.2.3 The Charter School shall not operate in more than one location without the prior approval of the Sponsor.

1.2.4 The Location of the Charter School must at all times meet the requirements of section 160.400.2, RSMo.

1.3 Facilities

1.3.1 The building(s) in which the Charter School is to be located shall be known as the Charter School's Facilities (the "Facilities").

1.3.2 The Sponsor or its designee may, at the Sponsor's discretion, conduct a health and safety inspection of the proposed Facilities.

1.3.3 The Facilities shall meet all applicable health, safety and fire code requirements and shall be of sufficient size to safely house anticipated enrollment.

1.3.4 All Facilities shall conform with applicable provisions of the Americans with Disabilities Act and any other federal or state requirements applicable to charter schools.

1.3.5 The Charter School's relocation to different Facilities shall constitute a material change to this Charter and shall be subject to the following conditions:

- Notification to the Sponsor;
- Submission of a valid Certificate of Occupancy or Temporary Certificate of Occupancy for the new Facilities at least thirty (30) days prior to the first day of occupancy;
- Evidence that the Facilities meet applicable health, safety and fire code requirements; and
- Evidence that the Facilities are of sufficient size to safely house anticipated enrollment.

1.3.6 Pursuant to the Pre-Opening Requirements set out in the Monitoring Plan (Exhibit __,"Pre-Opening Requirements"), the Charter School shall provide the Sponsor with a written, signed copy of the lease, purchase agreement and/or other such facilities agreement (the "Facilities Agreement") for the primary facilities and any ancillary facilities identified by the Charter School and such certificates and permissions as are necessary to operate the Charter School in the proposed Facilities for at least the first year of the School's operation.

1.3.7 In the event that an adequate Facilities Agreement and/or necessary certificates and permits are not in place by the date established in the Pre-Opening Requirements, the Charter School may not provide instruction at the Facilities. In such event, the Sponsor reserves the right to enforce any of the consequences for failure to meet Pre-Opening Requirements including prohibiting the Charter School from commencing instruction until the start of the succeeding school year. Notwithstanding the immediately foregoing, the Sponsor may waive or modify the restrictions contained therein upon good cause shown.

1.4 Pre-Opening.

Failure to timely fulfill any material term of the Pre-Opening Requirements shall be considered a breach of material compliance with the Charter pursuant to sections 160.405.7 and 160.405.8, RSMo, and shall be grounds for Sponsor intervention. Notwithstanding the immediately foregoing, the Sponsor may waive or modify the restrictions contained therein or may grant the Charter School an additional planning year upon good cause shown.

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1.5 Closure.
In the event that the Charter School is required to cease operation for any reason, including but not limited to non-renewal, revocation, or voluntary surrender of the Charter, the Charter School shall comply with the Sponsor's school closure requirements.

Part 2: School Operation

2.1 Mission Statement.
The Charter School's Mission Statement shall be as presented in the approved application. Any change to that Mission Statement shall be a material amendment to this Charter and subject to Sponsor approval.

2.2 Term of the Charter.
The Term of this Charter shall be __ years.

2.3 Purpose.
The Charter School is intended to operate consistent with the terms of this Charter and applicable law; be governed and managed in a financially prudent manner; and achieve the pupil outcomes set out in this Charter.

2.4 Renewal.
This Charter shall be renewable. The Sponsor shall make renewal decisions consistent with the performance indicators set out in the Monitoring Plan including but not limited to DESE-established accountability requirements and consequences.

2.5 Age; Grade Range; Number of Students.
The Charter School shall provide instruction to pupils in such grades and numbers in each year of operation under the Charter as described in the Charter Application.

2.5.1 Enrollment projections for the Charter School shall be as follows:

CHARTER YEAR	ACADEMIC YEAR	GRADES SERVED	PROJECTED NO. OF STUDENTS
E.G. Year 1	2009-10	6 through 8	150

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2.5.2 The Charter School may make modifications as to the number of students in any particular grade, and number of students within a class to accommodate staffing exigencies and attrition patterns provided such modifications are otherwise consistent with this Charter.

2.5.3 Elimination of a grade that the Charter School was scheduled to serve or expansion to serve grade levels not contemplated in the Charter Application shall be material changes to the terms of this Charter and shall require prior written authorization from the Sponsor.

2.5.4 Commencing or continuing instruction where the total number of students enrolled is less than ten percent (10%) of the projected enrollment or the total enrollment of the Charter School is fewer than _#_ (__) students, whichever number is greater, shall be a material change to the terms of this Charter and shall require prior written approval from the Sponsor. The Sponsor's approval of increases or decreases in student enrollment will be based on the Charter School's ability to demonstrate that such material changes in enrollment will not compromise the fiscal and educational integrity of the Charter School.

2.6 Student Recruitment and Enrollment.
Enrollment in the Charter School shall be conducted consistent with a plan to be approved by the Sponsor as part of the Pre-Opening Requirements.

2.6.1 The Charter School shall submit projected, current, and final student enrollment information in accordance with the Sponsor's financial and attendance reporting requirements.

2.6.2 Student recruitment and enrollment decisions shall be made in a nondiscriminatory manner and without regard to race, color, creed, national origin, sex, marital status, religion, ancestry, disability or need for special education services.

2.7 Volunteer Requirements.
Any requirement that parents commit a number of volunteer hours shall be subject to a waiver process that considers individual family circumstances.

2.8 School Calendar; Hours of Operation.
The days and hours of operation of the charter School shall not be materially less (defined here as more than ten percent (10%) less total time) than those set forth in the Charter. In no event shall the days and hours of operation fail to meet minimum requirements established pursuant to section 160.011, RSMo.

2.9 Admissions and Enrollment.
The Charter School shall adhere to the following admissions and enrollment requirements:

2.9.1 *Admit and enroll all pupils resident in the district in which it operates, contingent on available capacity. [applicable in St. Louis and Kansas City]*

2.9.2 *Admit and enroll nonresident pupils eligible to attend a district's school under an urban voluntary transfer program. [applicable for St. Louis charter schools, only]*

2.9.3 If capacity is insufficient to enroll all pupils who submit a timely application, the Charter School shall implement a random admissions policy as presented in the Charter Application or otherwise approved by the Sponsor subject to the exceptions presented in the following subsection.

2.10 Admissions and Enrollment Preferences.
The Charter School may establish Admissions and Enrollment Preferences consistent with this part provided that such preferences must be clearly presented in the Charter Application or must be otherwise approved in writing by the Sponsor.

2.10.1 The Charter School may limit admission to pupils according to given age group(s) or grade level(s).

2.10.2 The Charter School may give preference for admission of children whose siblings attend the School provided the sibling is eligible to attend pursuant to section 160.410(1) and/or (2) RSMo.

2.10.3 The Charter School may give preference for children whose parents are employed at the School provided the children are eligible to attend pursuant to section 160.410(1) and/or (2) RSMo.

2.10.4 The Charter School may establish a geographical area around the school whose residents will receive a preference for enrolling in the school, provided that such preferences do not result in the establishment of racially or socioeconomically isolated schools and provided such preferences conform to policies and guidelines established by the state board of education.

2.10.5 *If the Charter School is a workplace charter as defined in section 160.400.3, RSMo, the School may give preference for admission to children of a parent employed by the School provided the children are eligible to attend pursuant to section 160.410 (1) and/or (2), RSMo. [applicable for St. Louis charter schools, only].*

2.10.6 In no event may the Charter School limit admission based on race, ethnicity, national origin, disability, gender, income level, athletic ability, or proficiency in the English language.

2.11 Attendance.
The Charter School shall maintain contemporaneous records to document pupil attendance and shall make such records available for inspection at the Sponsor's request, including for the annual audit.

2.12 Student Conduct and Discipline.
The Charter School shall adopt and adhere to a student Discipline Policy that satisfies the applicable requirements of section 160.261, RSMo.

Adoption of a satisfactory policy shall be a pre-condition of opening consistent with the Pre-Opening Requirements of the Monitoring Plan.

2.13 The Charter School shall comply with all applicable state and federal laws related to student discipline, including due process provisions, and shall comply with the student suspension and expulsion procedures in the Charter Application.

2.14 Performance Expectations.
Before the end of the first year of the Charter School's operation, the Sponsor shall – based on state accountability systems, the Sponsor's performance expectations, and the educational goals and objectives set out in the Charter Application – finalize the performance indicators contained in the Monitoring Plan.

2.14.1 The Sponsor shall provide the Charter School a reasonable opportunity to incorporate school-specific performance measures provided that any such measures shall be demonstrably related to the School's mission and shall meet the Sponsor's expectations for rigor, validity and reliability.

2.14.2 The Monitoring Plan shall be the basis for the Sponsor's evaluation of Charter School performance.

2.15 Governance.

2.15.1 The governing board of the Charter School is responsible for complying with and carrying out the provisions of this Charter, including compliance with applicable law and regulation and all reporting requirements.

2.15.2 The Charter School's governing board shall operate in accordance with the bylaws contained in the Charter Application, as approved.

2.15.3 The Charter School shall adhere to the method for election of officers contained in the Charter Application, as approved and consistent with section 355.326, RSMo.

2.15.4 The governing board shall adopt and adhere to a formal conflict of interest policy that is consistent with applicable law and the Sponsor's policy. A violation of such policy shall constitute a serious breach of this Charter pursuant to section 160.405 7.(1), RSMo.

2.15.5 The Charter School shall maintain governing board-adopted policies, meeting agendas and minutes; shall make such documents available for public inspection, and shall otherwise conduct open meetings consistent with the requirements of sections 610.010 to 610.030, RSMo.

2.16 Comprehensive Management.
Should the Charter School intend to enter into an agreement with another entity for comprehensive management services, the following provisions shall apply:

2.16.1 The comprehensive management company or other comprehensive educational service provider, as the entity that is operating the Charter School, shall be considered a quasi-public governmental body pursuant to section 610.010(f), RSMo, and shall be subject to the provisions of sections 610.010 to 610.035, RSMo.

2.16.2 The Charter School shall comply with all Sponsor requests for information about the management agreement that are reasonably related to the Sponsor's duty to ensure that the Charter School is in compliance with all provisions of this Charter and sections 160.400 to 160.420 and 167.349, RSMo.

2.16.3 In no event shall the governing board of the Charter School delegate or assign its responsibility for fulfilling the terms of this Charter.

2.16.4 The termination or change of a comprehensive management company shall constitute a material change to the terms of the Charter and shall be subject to prior written authorization from the Sponsor.

2.17 Employment.

2.17.1 The Charter School shall have ultimate responsibility for employment, management, dismissal and discipline of its employees.

2.18 Employee Certification.

2.18.1 The Charter School may employ non-certificated personnel provided that

2.18.1.1 no more than twenty percent (20%) of the full-time equivalent instructional staff positions are filled by non-certificated personnel; and

2.18.1.2 all non-certificated instructional personnel are supervised by certificated instructional personnel.

2.18.2 The Charter School shall ensure that all instructional employees of the charter school have experience, training and skills appropriate to the instructional duties of the employee. For non-certificated instructional personnel, appropriate experience, training and skills shall be determined according to the criteria set forth in section 160.420.2, RSMo.

2.18.3 The Charter School may not employ instructional personnel whose certificate of license to teach has been revoked or is currently suspended by the state board of education.

2.18.4 The Charter School shall maintain copies of individual employment contracts on file at the School. Such files shall be subject to periodic inspection by the Sponsor.

2.18.5 Criminal History Review.

2.18.5.1 Any person directly or indirectly employed by the Charter School including contractors and subcontractors who perform work at the Charter School must provide verification of criminal clearance for any crime punishable as a felony or any crime related to theft or the

misappropriation of funds.

2.185.2 Charter School shall conduct criminal background checks of all employees. The criminal records summaries shall include a fingerprint check, a simultaneous FBI check, and a child abuse registry check.

2.18.5.3 No person who has been convicted of or has pleaded nolo contendere to a crime punishable as a felony shall be hired by the Charter School for a position of supervisory or disciplinary authority over school children unless approved in writing by the Sponsor. For the purposes of this subsection, any person employed to provide cafeteria, transportation, or janitorial or maintenance services by any person or entity that contracts with the School to provide such services shall be considered to be in a position of supervisory authority over school children.

2.18.5.4 No member of the governing board or person employed or otherwise associated with the Charter School who has been convicted of or has pleaded nolo contendere to a crime related to misappropriation of funds or theft shall be engaged in direct processing of Charter School funds unless approved in writing by the Sponsor.

2.19 Student Welfare and Safety.

The Charter School shall comply with all applicable federal and state laws concerning student welfare, safety and health, including but not limited to state laws regarding the reporting of child abuse, accident prevention and disaster response, and any applicable state and local regulations governing the operation of school facilities.

2.20 Non Discrimination.

2.20.1 The Charter School shall be nonsectarian in its programs, admission policies, employment practices, and all other operations.

2.20.2 The Charter School shall abide by the requirements of the following as applicable: Title VI and VII of the Civil Rights Act of 1964, as amended by the Equal Employment Opportunity Act of 1972; Federal Executive Order 11246; the Federal Rehabilitation Act of 1973, as amended; the Vietnam Era Veteran's Readjustment Assistance Act of 1974; Title IX of the Education Amendments of 1972; the Age Act of 1975; and the Americans with Disabilities Act of 1990.

2.20.3 Any act of discrimination committed by the Charter School or its agents, or failure to comply with its Charter obligations shall be a serious breach of this Charter and shall be grounds for revocation.

2.21 Health & Safety.

The Charter School shall comply with laws and regulations of the state, county, or city relating to health and safety, including the requirements relating to notification of criminal conduct to law enforcement authorities under sections 167.115 through 167.117, RSMo.

2.22 Services Agreements and Partnerships.

2.22.1 Nothing in this Charter shall be interpreted to prevent the Charter School from entering into contracts or other agreements with a school district, community partnership, state agency, or other entity for services related to the operation of the school consistent with sections 160.415.6 and 160.415.7, RSMo.

2.22.1.1 The terms of such contracts for services shall be negotiated between the School and the local school board or other entity.

2.22.1.2 Such contracts for services shall, at all times, be subject to the requirements of this Charter.

2.22.1.3 In the event that a contract for services under this subsection constitutes an agreement for comprehensive management, such agreement shall be subject to the requirements of subsection 2.16 of this Charter ("Comprehensive Management").

2.23 Transportation.

The Charter School shall be responsible for providing students transportation consistent with the plan proposed in the approved application.

2.24 Public Inspection.

The Charter School shall make available for public inspection, and provide upon request to a parent, guardian, or other custodian of any school-age pupil resident in the district in which the school is located the following information:

2.24.1 This Charter, including all Exhibits and Attachments.

2.24.2 The Charter Application (as approved by the Sponsor).

2.24.3 The School's most recent annual report card published according to section 160.522, RSMo.

2.24.4 The results of background checks on the members of the governing board.

2.25 The Charter School may charge reasonable fees, not to exceed the rate specified in section 610.026, RSMo, for furnishing copies of documents for Public Inspection.

2.26 Exemptions.

Except as provided in sections 160.400 to 160.420, RSMo., and as provided in this Charter, the Charter School shall be exempt from all laws and rules relating to schools, governing boards and school districts.

3.1 Assessment of Student Performance

The Charter School shall implement the plan for assessment of student performance and administration of statewide assessments consistent with the laws and regulations of the state, as specified by the state board of education, for academic assessment under section 160.518, RSMo.

3.1.1 At a minimum, the Charter School shall administer the following statewide performance assessments or subsequently adopted equivalent:

- Missouri Assessment Program (grades three through eight)
- End of Course Assessments, 2009 Operational: Biology, Algebra and Communication Arts.
- End of Course Assessments, 2010 Operational: English II, Algebra II, Geometry, Integrated Math II, Integrated Math III, Government, English I, and American History.

3.1.2 The Charter School shall certify annually that students have participated in the state assessment program pursuant to section 160.518, RSMo.

3.2 Educational Program and Curriculum.

The Charter School shall implement an educational program and curriculum consistent with the program and curriculum presented in the Charter Application.

3.2.1 The Charter School may revise and amend the educational program and curriculum at its discretion and without requiring approval from the Sponsor or amendment to this Charter provided that such revisions or amendments do not indicate a material change to the school's mission or its pupil performance standards.

3.2.2 Material revisions and/or amendments to the educational program and/or curriculum shall require the Sponsor's approval.

3.3 Special Education.

The Charter School shall ensure that the needs of children with disabilities are met in compliance with applicable federal and state laws.

3.3.1 The Charter School shall be designated a local education agency (LEA) for purposes of meeting special education requirements pursuant to the Individuals with Disabilities Education Act (IDEA).

3.3.2 The Charter School shall annually submit to DESE a local compliance plan that indicates how a free and appropriate public education will be provided to children with disabilities. The Charter School shall comply with the local compliance plan, the state plan, and state and federal laws and federal regulations. The Charter School may use the state standards and indicators manual for guidance in establishing and implementing the special education program.

3.3.3 The Charter School may provide special services pursuant to a contract with a school district or any provider of such services.

3.4 English Language Learners.
The Charter School shall be responsible for meeting the needs of English language learners in compliance with Missouri and Federal law, including any Federal court decisions applicable to children of the district in which the Charter School is located.

3.5 Student Conduct and Discipline.
The Charter School shall comply with laws and regulations of the state, county, or city relating to minimum educational standards as specified by the state board of education, including the requirements relating to student discipline under sections 160.261, 167.161, 167.164, and 167.171, RSMo.

3.6 School Records and Reporting.
The Charter School shall comply with applicable federal and state (as specified by the state board of education) laws and regulations for maintenance and transmittal of school records including as provided for under section 167.020.7, RSMo, the Missouri Public School Record Retention Schedule, and the Federal Family Educational Rights and Privacy Act (FERPA).

3.7 School Calendar; Hours of Operation.
The Charter School shall comply with laws and regulations of the state, as specified by the state board of education, for the minimum number of school days and hours required under section 160.041, RSMo.

Part 4: Charter School Finance

4.1 Fiscal Year.
The Charter School shall operate on a fiscal year that begins on July 1 and ends on June 30.

4.2 State School Aid: Charter School Duties.

4.2.1 For purposes of calculation and distribution of state school aid, pupils enrolled in the Charter School shall be included in the pupil enrollment of the school district within which each pupil resides.

4.2.2 The Charter School shall report the names, addresses, and eligibility for free and reduced lunch, special education, transportation and/or limited English proficiency status of pupils enrolled at the Charter School to the Sponsor in accordance with the Monitoring Plan.

4.2.3 The Charter School shall report the names, addresses, and eligibility for free and reduced lunch, special education, transportation and/or limited English proficiency status of pupils enrolled at the Charter School to the school district in which those pupils reside in accordance with the Monitoring Plan.

4.2.4 In accordance with the Department of Elementary and Secondary Education's (DESE's) Missouri Student Information System ("MOSIS") reporting guidelines, the Charter School shall report the average daily attendance data ("ADA"), free and reduced lunch count, special education pupil count, and limited English proficiency pupil count to DESE.

4.2.5 When a student discontinues enrollment at the Charter School, the School shall promptly notify the Sponsor and DESE. Prompt updates to MOSIS or a successor information system shall constitute compliance with the requirements of this paragraph.

4.2.6 If at the end of the fiscal year the Charter School has received overpayment for that year, the School shall be responsible for making repayment through one or more payment adjustments that DESE shall make in the subsequent fiscal year.

4.3 State School Aid.

4.3.1 On or about the 21st of each month, the Charter School shall receive a state school aid payment.

4.3.2 State school aid payments shall be based on the Charter School's current year weighted ADA.

4.4 School Funding: Eligibility and Calculation.

4.4.1 The Charter School is entitled to receive from each school district having one or more resident pupils attending the Charter School an annual amount equal to the product of the Charter School's weighted ADA and the state adequacy target, multiplied by the dollar value modifier for the district, plus local tax revenues per weighted average daily attendance from the incidental and teachers' funds in excess of the performance levy as defined in section 163.011, RSMo plus all other state aid attributable to such pupils. [Applies only to eligible transfers to St. Louis charter schools from other districts]

4.4.2 In addition to the funds identified in the foregoing subsection, the Charter School is entitled to receive from the district of residence of a pupil attending the Charter School any other federal or state aid that the district receives on account of that child.

4.4.3 In the case of partial year enrollment of a pupil, the Charter School shall be entitled to state school aid in prorated amounts.

4.4.4 *State School Aid: Alternate to 4.3 for schools that declare themselves to be LEAs.*

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4.4.4.1 *The Charter School is entitled to receive directly from DESE an annual amount equal to the product of the charter school's weighted average daily attendance and the state adequacy target, multiplied by the dollar value modifier for the district, plus local tax revenues per weighted average daily attendance from the incidental and teachers funds in excess of the performance levy as defined in section 163.011, RSMo, plus all other state aid attributable to such pupils.*

4.4.5 The Charter School shall be eligible for transportation state aid pursuant to section 163.161, RSMo.

4.4.6 The Charter School shall be eligible for a proportionate share of state and federal resources generated by students with disabilities or staff serving them.

4.4.7 The Charter School shall be eligible for a proportionate share of money generated under other federal or state categorical aid programs to the extent the School serves students eligible for such aid.

4.5 Tuition and Fees.

4.51 The Charter School shall not charge tuition or fees of any kind as a condition of enrollment.

4.5.2 The Charter School shall not impose any fees that a school district would be prohibited from imposing.

4.5.3 Nothing in this section shall be interpreted to prohibit a Charter School from imposing fees that a school district would be permitted to impose.

4.6 Debt.

4.6.1 The Charter School is authorized to incur debt in anticipation of receipt of funds including borrowing to finance facilities and other capital items provided that such incursion of debt or borrowing include a satisfactory plan for repayment.

4.6.2 Any new incursion of debt or borrowing in excess of $____ shall constitute a material amendment to this charter requiring prior Sponsor approval based on the Charter School's demonstration of a satisfactory plan for repayment.

4.6.3 In the event of dissolution of the Charter School, any liabilities of the School shall be satisfied in accordance with the Sponsor's closure procedures and the procedures provided for in chapter 355, RSMo.

4.7 Grants, Gifts and Donations.

Nothing in this Charter shall be interpreted to prevent the governing board of the Charter School from accepting grants, gifts or donations of any kind and to expend or use such grants, gifts or donations provided that any such grants, gifts or donations not be subject to a condition that is contrary to this Charter or any applicable law.

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4.8 Financial Accounting and Reporting.
The Charter School shall timely submit to the Sponsor and DESE all accounting and reporting in accordance with the Monitoring Plan.

4.8.1 The Charter School shall adhere to practices that are consistent with the Missouri financial accounting manual.

4.8.2 All required Charter School accounting and reports shall be submitted to the Sponsor in a format compatible with Generally Accepted Accounting Principles ("GAAP").

4.8.3 The Charter School shall submit to DESE an Annual Secretary of the Board report ("ASBR") on or before August 15.

4,9 Financial Audit.
The Charter School shall conduct an annual Financial Statement Audit and Financial and Administrative Procedures Controls Review (collectively, the "Financial Audit").

4.9.1 The Financial Audit shall be conducted consistent with the Monitoring Plan including, but not limited to, (1) an audit of the accuracy of the Charter School's financial statements, (2) an audit of the Charter School's attendance accounting and revenue claims practices, and (3) an audit of the Charter School's internal control practices.

4.9.2 The auditor conducting the Financial Audit shall be a licensed certified public accountant.

4.9.3 The Financial Audit shall be completed and the report delivered to the Sponsor and DESE no later than October 31 following the conclusion of the fiscal year.

4.9.4 The Charter School shall publish Financial Audit results consistent with Chapter 165, RSMo.

4.9.5 The cost of the Financial Audit shall be borne by the Charter School.

4.9.6 In the event that the Charter School has local education agency ("LEA") status, the Financial Audit shall satisfy the requirements of the No Child Left Behind Act for audits of such agencies.

4.9.7 The Financial Audit shall comply with state board of education rule, 5 CSR 30-4.030

4.10 Financial Records.
All records of the Charter School are subject to inspection and production as required for fulfillment of the Sponsor's oversight duties. If the Charter is revoked, non-renewed or surrendered, or the Charter School otherwise ceases operations, the School shall manage all financial records consistent with the Sponsor's closure requirements.

4.11 Assets.

4.11.1 The Charter School shall maintain a complete and current inventory of all school property and shall update the inventory annually.

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4.11.2 Any assets acquired by the Charter School are the property of the School for the duration of the Charter and any subsequent renewals.

4.11.3 The Charter School shall take reasonable precautions to safeguard assets acquired with public funds.

4.11.4 If the Charter is revoked, non-renewed or surrendered, or the School otherwise ceases to operate,

4.11.4.1 any assets acquired in whole or in part with public funds shall be deemed to be public assets; and

4.11.4.2 any material assets acquired wholly with private funds shall be disposed of consistent with Missouri non profit law provided that the School must maintain records demonstrating that such assets have been acquired without the use of public funds; and

4.11.4.3 the Charter School shall manage all assets consistent with the requirements of the School Closure Protocol section of the Oversight Protocol.

4.11.5 If the Charter School's records fail to establish clearly whether an asset was acquired with the use of public funds, the assets shall be deemed to be public assets.

4.11.6 As required by section 110.010.1, RSMo, and as recommended by the State Auditor's Performance Audit (2004-59), the Charter School shall insure funds not covered by federal insurance.

4.12 Insurance and Surety.
The Charter School shall maintain at its sole cost and expense, without reimbursement, adequate policies in the areas of Comprehensive or Commercial General Liability; Worker's Compensation; Property Insurance to address business interruption and casualty needs including fire and other hazards with replacement costs coverage for all assets listed in the Charter School's property inventory and consumables; Comprehensive or Business Automobile Liability; Professional or Directors Liability to cover errors and omissions; and a surety bond for the chief financial officer of the School.

4.13 Coverage Minimum.
For purposes of the foregoing insurance requirements, the following coverage shall be deemed adequate:

4.13.1 Worker's Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction over the Charter School's employees, and employers' liability insurance with a minimum limit of $_____.

4.13.2 Comprehensive General Liability insurance with a minimum combined single limit of $_____ each occurrence.

4.13.3 Comprehensive Automobile Liability insurance with a combined single limit for bodily injury and property damage of not less than $_____ each occurrence with respect to the School's owned,

hired or non-owned vehicles assigned to or used in performance of programs or services offered by the Charter School.

4.13.4 Property insurance for buildings used by the Charter School to fulfill the purposes of this Charter and any contents acquired by the School with public funds. The insurance obtained by the School shall provide the Sponsor with the ability to file a claim for any loss of property acquired with public funds.

4.13.5 Errors and Omissions Liability insurance shall conform to the following requirements:

- Cover the School for potential liability arising out of the rendering or failure to render professional services in the performance of the Charter, including all services related to financial management and indemnification.
- Be subject to a maximum deductible not to exceed $_____ per claim.
- Maintain minimum limits of no less than $_____ per claim/ annual aggregate.

The governing board of the Charter School may satisfy the requirements of this subsection by participating in the Missouri public entity risk management fund in the manner provided under sections 537.700 to 537.756, RSMo.

4.13.6 The chief financial officer of the School shall maintain a surety bond in amount of at least $_____.

4.13.7 Any and all policies of insurance maintained by the Charter School pursuant to this Section shall be deemed primary to any potentially applicable policy or policies of insurance maintained by the Sponsor and/or their respective officers, agents, employees and representatives. The Sponsor may specify that it be named as "separately insured."

4.13.8 The Charter School shall provide copies of all required policies of insurance and certificates of coverage to the Sponsor by the date(s) set out in the Pre-Opening Requirements section of the Oversight Protocol and shall provide updated copies annually prior to the first day of school.

4.14 Sponsor Expenses.

The Sponsor shall be entitled to receive from the department of elementary and secondary education one and five-tenths percent (1.5%) of the amount of state and local funding allocated to the Charter School pursuant to section 160.415, RSMo., not to exceed one hundred twenty-five thousand dollars ($125,000), adjusted for inflation.

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5.1 Monitoring Plan.

The Sponsor shall base evaluation of the Charter School on the academic and operational performance indicators set out in the Performance section of the Charter School's Monitoring Plan. Those indicators shall include, but not be limited to, DESE-established accountability requirements and consequences.

5.1.1 The Monitoring Plan may include school-specific performance goals to the extent such goals meet the Sponsor's expectations for rigor, validity and reliability.

5.1.2 The Sponsor shall evaluate the Charter School at least annually consistent with the standards and measures set out in the Monitoring Plan.

5.1.3 The Sponsor shall make renewal decisions based on the Charter School's performance in relation to the Monitoring Plan.

5.2 Oversight.

The Sponsor shall have broad oversight authority over the Charter School and may, pursuant to section 160.405.8, RSMo, take all reasonable steps necessary to confirm that the Charter School is and remains in material compliance with this Charter and applicable law. The Sponsor's oversight of the Charter School shall include the following activities:

5.2.1 Pre-opening, oversight, intervention, revocation, renewal, and closure processes and procedures for the Charter School;

5.2.2 Monitoring the performance and compliance of the Charter School within the terms of this Charter and applicable laws, policies and regulations;

5.2.3 Ensuring Charter School compliance with reporting requirements;

5.2.4 Monitoring the educational, legal, fiscal and organizational condition of the Charter School; and

5.2.5 Providing guidance to the Charter School on compliance and other operational matters.

5.3 Renewal.

5.3.1 The Sponsor shall make renewal decisions consistent with the Sponsor's renewal decisonmaking procedures.

5.3.2 The Sponsor shall make renewal decisions based on the Charter School's performance in relation to the performance indicators set out in the Monitoring Plan.

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5.4 Intervention.
Consistent with any oversight practices set out in the Monitoring Plan, the Sponsor shall follow a progressive system of notification and calls for corrective action on the part of the Charter School.

5.5 Revocation.
The Sponsor may revoke this Charter at any time if the charter school commits a serious breach of one or more provisions of this Charter or on any of the following grounds:

5.5.1 Failure to meet academic performance standards as set forth in this Charter.

5.5.2 Failure to meet generally accepted standards of fiscal management.

5.5.3 Failure to provide information necessary to confirm compliance with all provisions of the charter and sections 160.400 to 160.420 and 167.349, RSMo, within forty-five (45) days following receipt of written notice requesting such information.

5.5.4 Violation of law.

5.6 Reporting and Inspection.
All records established and maintained in accordance with the provisions of this Charter, applicable policies and/or regulations, and federal and state law shall be open to inspection by the Sponsor or its designees.

5.6.1 The Charter School shall grant the Sponsor access to student data collected by DESE and available through MOSIS.

5.6.2 Upon request, the Charter School shall report and/or make available to the Sponsor any information necessary to confirm ongoing compliance with this Charter, including but not limited to cumulative files and/or student information.

5.6.3 Access shall include the authority to review and copy documents.

5.6.4 Except as otherwise provided in this Charter, the Sponsor shall use such information exclusively for fulfillment of its oversight responsibilities or for compliance with the law and shall not use student information acquired from the Charter School for any other purpose.

5.6.5 The Sponsor shall provide the Charter School reasonable notice and, to the extent feasible, a schedule of regular reporting requirements.

5.7 Site Visits.
The Sponsor may, at its discretion, conduct announced or unannounced Site Visits consistent with its oversight authority. Such site visits may include any activities reasonably related to fulfillment of the Sponsor's oversight responsibilities including, but not limited to, inspection of the facilities; inspection of records maintained by the Charter School; interviews and observations of the principal, Governing board, staff,

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school families, and community members; and/or observation of classroom instruction.

5.8 Complaints.

5.8.1 Any complaints or concerns received by the Sponsor about the Charter School or its operation, including but not limited to complaints filed with the Office for Civil Rights, Missouri Commission on Human Rights, and Equal Employment Opportunity Commission, shall be forwarded promptly by the Sponsor to the Charter School.

5.8.1.1 To the extent that concerns or complaints received by the Sponsor about the Charter School may trigger Sponsor intervention, including revocation or non-renewal of the Charter, the Sponsor may monitor the Charter School's handling of such concerns or complaints. In such cases, the Sponsor may request and the Charter School shall provide information regarding the school's actions in responding to those concerns or complaints.

5.8.1.2 Within thirty (30) days of receipt of any documents, data and records provided by the Charter School pursuant to compliance with the terms of this Charter, the Sponsor shall notify the Charter School in writing of material problems, questions, concerns, and/or issues related to such documents, data, and reports.

5.8.2 The Charter School shall promptly forward to the Sponsor any formal complaints or concerns received by the Charter School including but not limited to complaints filed with the Office for Civil Rights, Missouri Commission on Human Rights, and Equal Employment Opportunity Commission, and/or formal grievances filed by any party with the governing board of the Charter School.

5.9 Reporting.

The Charter School shall timely provide to the Sponsor any reports necessary and reasonably required for the Sponsor to meet its oversight and reporting obligations.

5.9.1 Student records may include but are not limited to emergency contact information, health and immunization data, class schedules, attendance summaries, disciplinary actions and academic performance standardized assessment results and documentation required pursuant to state and federal law.

5.9.2 The Sponsor shall endeavor to reduce the reporting burden it places on the Charter School by providing reasonable notice for requests, limiting requests to what is reasonably required for the Sponsor to fulfill its duties for oversight, accountability and reporting, and avoiding duplicative requests by accessing data collected by DESE through MOSIS.

5.10 Dispute Resolution.

In the event of a dispute between the Charter School and the Sponsor regarding the terms of this Charter or any other issue regarding the relationship between the Charter School and the Sponsor, the Parties agree to implement the following Dispute Resolution Plan in good faith.

5.10.1 Each Party agrees to notify the other, in writing, of the specific disputed issue(s).

5.10.2 Within thirty (30) days of sending written correspondence, or longer if both parties agree, the Charter School Representative and the Sponsor Representative, or their designees, shall confer in a good faith effort to resolve the dispute.

5.10.3 If the dispute has not been resolved following efforts to confer, the parties agree to identify a neutral, third-party mediator to assist in dispute resolution. The format of the third-party mediation process shall be developed jointly by the representatives and shall incorporate informal rules of evidence and procedure unless both parties agree otherwise. Mediation costs shall be shared equally between the Charter School and the Sponsor. The finding(s) or recommendation(s) of any mediator shall be non-binding unless the governing authorities of the School and Sponsor agree jointly in writing to bind themselves.

5.10.4 In the event that neither the mediation process nor other good faith efforts achieve resolution of the dispute, the Charter School may exercise any legal rights and pursue any legal remedies that are available under applicable law.

5.10.5 In the event that neither the mediation process nor other good faith efforts achieve resolution of the dispute, the Sponsor may take any action it deems appropriate, consistent with its duty to ensure that the Charter School is in material compliance with this Charter and applicable law. Nothing in this section be construed to abridge or in any way limit the Sponsor's authority to revoke a Charter consistent with the requirements of section 160.405.7 RSMo.

5.11 Notification.

5.11.1 The Charter School shall notify the Sponsor immediately of any conditions that it knows are likely to cause it to violate the terms of this Charter or applicable law.

5.11.2 The Charter School shall notify the Sponsor immediately of any circumstance requiring the closure of the Charter School, including but not limited to a natural disaster, such as an earthquake, storm, flood or other weather-related event, other extraordinary emergency, or destruction of or damage to the school facility.

5.11.3 The Charter School shall immediately notify the Sponsor of the arrest or charge of any members of the Charter School's governing board or of a Charter School employee for a crime punishable as a felony, any crime related to the misappropriation of funds or theft, any crime or misdemeanor constituting an act against a minor child or student, or of

the investigation of a member of the Charter School's governing board or of any Charter School employee for child abuse.

5.11.4 The Charter School shall notify the Sponsor immediately of any change in its corporate status with the Missouri Secretary of State's Office.

5.11.5 The Charter School shall notify the Sponsor immediately of a default on any obligation, which shall include debts for which payments are past due by sixty (60) days or more.

5.11.6 The Charter School shall notify the Sponsor immediately if at any time during the school year, the Charter School's enrollment decreases by ten percent (10%) or more compared to the most recent pupil count submitted to the Sponsor and/or DESE.

Part 6: Contract Implementation.

6.1 Entire Agreement.

The Parties intend this Charter, including all attachments and exhibits, to represent a final and complete expression of their agreement, which shall be considered the Charter. All prior representations, understandings and discussions are merged herein, and no course of prior dealings between the Parties shall supplement or explain any terms used in this document. The Parties recognize that amendments to this Charter may be approved from time to time hereafter.

6.2 Notice.

Any notice required or permitted under this Charter shall be in writing and shall be effective immediately upon personal delivery, subject to verification of service or acknowledgment of receipt, or three (3) days after mailing when sent by certified mail, postage prepaid to the following:

In the case of the Charter School:

NAME	ADDRESS

In the case of the Sponsor:

NAME	ADDRESS

6.3 Indemnification and Disclaimer of Liability.

6.3.1 The Parties acknowledge that the Charter School is not acting as the agent of, or under the direction and control of the Sponsor, except as required explicitly by law or this Charter, and that the Sponsor does not assume liability for any loss or injury resulting from the acts or omissions of the Charter School, its directors, trustees, agents, or employees.

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6.3.2 The Charter School acknowledges that it is without authority to extend the faith and credit of the Sponsor to any third party. The Charter School shall clearly indicate to vendors and other entities and individuals that the obligations of the Charter School under agreement or contract are solely the responsibility of the Charter School and are not the responsibility of the Sponsor.

6.3.3 The Charter School shall defend, indemnify, and hold harmless the Sponsor and its officers, directors, agents, and employees from any and all claims, demands, suits, actions, proceedings, loss, cost, and damages of every kind and description, including but not limited to attorneys' fees and/or litigation expenses which may be brought or made against or incurred by the Sponsor on account of any action of the Charter School, its employees, agents or assigns. The provisions or limits of insurance required under this Charter shall not limit the liability of the Charter School.

6.3.4 The Sponsor shall defend, indemnify, and hold harmless the Charter School and its officers, directors, agents, and employees from any and all claims, demands, suits, actions, proceedings, loss, cost, and damages of every kind and description, including but not limited to attorneys' fees and/or litigation expenses which may be brought or made against or incurred by the Charter School on account of any action of the Sponsor, its employees, agents, or assigns. The provisions or limits of insurance required under this Charter shall not limit the liability of the Sponsor.

6.3.5 This Charter is not an employment contract. No officer, employee, agent, or subcontractor of the Charter School is an officer, employee, or agent of the Sponsor.

6.3.6 The Sponsor shall not be liable for the debts or financial obligations of the Charter School.

6.3.7 The Charter School shall not be liable for the debts or financial obligations of the Sponsor.

6.4 Waiver.

The failure of either Party to insist on strict performance of any term or condition of this Charter shall not constitute a waiver of that term or condition, even if the Party accepting or acquiescing in the nonconforming performance knows of the nature of the performance and fails to object to it.

6.5 Assignment.

No right or interest in the this Charter may be assigned by anyone on behalf of the Charter School without prior written approval of the Sponsor and delegation of any contractual duty of the Charter School shall not be made without prior written approval of the Sponsor, which approval may be given or withheld at the sole discretion of the Sponsor. A violation of this provision shall constitute a serious breach of the Charter pursuant to section 160.405.7, RSMo. and shall be grounds for revocation of the Charter.

6.6 Applicable Law.
This Charter shall be governed by and construed in accordance with the laws of the State of Missouri and all applicable federal laws of the United States.

6.6.1 The Parties intend that where this Charter references federal or state laws, that they be bound by any amendments to such laws upon the effective date of such amendments.

6.6.2 The Charter School shall comply with all federal and state laws and regulations that are applicable to charter schools unless the School has expressly received a waiver from such laws and regulations. The Charter School shall conform, in all respects, with the educational standards contained in this Charter.

6.7 Severability.
The provisions of this Charter are severable. Any term or condition deemed illegal or invalid shall not affect any other term or condition, and the remainder of the Charter shall remain in effect unless otherwise terminated by one or both of the Parties.

6.8 Third Party Beneficiary.
The enforcement of the terms and conditions of this Charter, and all rights of action relating to such enforcement, shall be strictly reserved to the Sponsor and the Charter School. Nothing contained in this Charter shall give or allow any claim or right of action whatsoever by any other or third person. It is the express intent of the Parties to this Charter that any person receiving services or benefits hereunder shall be deemed an incidental beneficiary only.

6.9 Counterparts; Signature by Facsimile.
The Charter may be signed in counterparts, which shall together constitute the original Charter. Signatures received by facsimile by either of the Parties shall have the same effect as original signatures.

6.10 Material Amendment.
Any Material Amendment to this Charter shall be effective only with approval of both the Sponsor and the Charter School.

6.10.1 The Charter School may submit any proposed Material Amendment to the Sponsor in accordance with guidance to be promulgated by the Sponsor.

6.10.2 Changes to the Charter that constitute Material Amendments include, but are not limited to, the following:

6.10.2.1 Changes in legal status; ownership; governance; or senior management, including the structure of the governing board and its membership;

6.10.2.2 The termination or change of a comprehensive management company shall constitute a material change to the terms of the Charter and shall be subject to prior written authorization from the Sponsor.

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6.10.2.3 Changes to the mission statement;

6.10.2.4 Variances in actual enrollment that exceed or fall short of enrollment projections contained in the Charter by more than ten percent (10%);

6.10.2.5 Changes in grade levels served;

6.10.2.6 Changes in location of the Facilities;

6.10.2.7 Changes in the school calendar affecting the number of days of instruction;

6.10.2.8 Changes in admissions or enrollment preferences or procedures;

6.10.2.9 Changes in special education status or procedures;

6.10.2.10 Changes in LEA status; and

6.10.2.11 Substantial changes to the educational program with respect either to content or method.

6.11 Non-Material Amendment.
A Non-Material Amendment to this Charter may be made effective by the Charter School through written Notification to the Sponsor.

6.11.1 Non-Material Amendments to the Agreement include, but are not limited to, the following:

6.11.1.1 Amendments to the Charter School's bylaws;

6.11.1.2 Revisions and/or amendments to the instructional methods or curriculum that do not affect the School's mission or pupil performance standards;

6.11.1.3 Variances in actual enrollment that do not exceed or fall short of enrollment projections contained in the Charter by more than ten percent (10%);

6.11.1.4 Changes to the mailing address, telephone, and/or fax number of the Charter School provided that such changes do not constitute a change to the School's location; and

6.11.1.4 Changes to the contact person located at the Charter School site.

6.11.2 Unless the Sponsor objects in writing within thirty (30) days following Notification, a Non-Material Amendment shall become effective thirty (30) days following Notification.

6.11.3 The Sponsor may object in writing to a Non-Material Amendment either on the basis that the proposed change constitutes a Material Amendment or for other good cause that shall be stated in the objection.

6.11.4 Unless the Sponsor objects in writing, the Non-Material Amendment shall become effective after thirty (30) days.

Remainder of page intentionally blank

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IN WITNESS WHEREOF, the Parties have made and entered into this Charter as of the Effective Date.

Sponsor Name	**Charter School**
SIGNATURE	SIGNATURE
NAME	NAME
TITLE	PRESIDENT, GOVERNING BOARD
DATE	DATE

Charter School Application Evaluation Rubric

A Model Resource for Missouri Charter Public School Sponsors

SCHOOL NAME

APPLICANT ORGANIZATION

REFERENCE NUMBER

EVALUATOR NAME

EVALUATION DATE

DEVELOPED BY THE NATIONAL ASSOCIATION OF CHARTER SCHOOL AUTHORIZERS

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Contents

Introduction and Guidelines 3

Recommendation Summary 4

A.Education Plan

A.1 Mission, Vision and Educational Philosophy 5

A.2 Curriculum and Instruction 7

A.3 Career Education * 9

A.4 School Calendar and Daily Schedule 11

A.5 Target Population 13

A.6 Special Student Populations 15

A.7 School-Specific Goals and Objectives 17

A.7.1 Comprehensive Performance Measures * 19

A.8 Assessment 21

A.9 School Climate and Discipline 23

B.Organizational Plan

B.1 School-Specific Goals and Objectives 25

B.2 Governing Board Composition 27

B.3 Management and Operation 29

B.3.1 Education Service Providers * 31

B.4 Staffing and Human Resources 33

B.4.1 Four-year College and/or University Affiliation * 35

B.5 Student Recruitment and Enrollment 37

B.6 Community Involvement 39

B.6.1 Joint Application * 41

C. Business Plan

C.1 Budget 43

C.2 Financial Management 45

C.3 Facility 47

C.4 Transportation 49

C.5 Insurance 51

C.6 Pre-Opening Plan 53

* *Denotes sections required only of certain applicants*

Introduction and Guidelines

The Missouri Charter School Application Evaluation Rubric guides reviewers through an assessment of the key elements needed to design, manage, and operate a quality charter school consistent with Missouri law. Each section restates the application request and provides criteria for evaluating the applicant's response to the request.

For each section, you are asked to determine whether the response meets, partially meets or does not meet the standard. In general, the following definitions should guide your assessment:

Within each section, your rating and accompanying comments for the section should apply and reference those criteria.

Your comments and evidence are at least as significant as your rating.

Required Check Boxes

MEETS THE STANDARD

The response demonstrates a thorough understanding of key issues and demonstrates capacity to open and operate a quality charter school. It addresses the topic with specific evidence that shows thorough preparation and presents a clear, realistic picture of how the school expects to operate.

PARTIALLY MEETS THE STANDARD

The response meets some of the criteria, but lacks meaningful detail or requires additional information in one or more key areas.

DOES NOT MEET THE STANDARD

The response lacks meaningful detail; demonstrates lack of preparation; and/or otherwise raises substantial concerns about the applicant's understanding of and ability to implement an effective plan including if the respondent does not respond to the required section.

Supplemental Write-in Fields

STRENGTHS

Use the strengths box to identify notable positive aspects of the response.

CONCERNS AND ADDITIONAL QUESTIONS

Use the concerns and additional questions box to identify questions and concerns that bear on whether the application should be approved.

REFERENCE

Where applicable, use the "Reference" cell to note the relevant section and/or page number of the application.

Evaluator:

Recommendation Summary

Complete this page last.

OVERALL RECOMMENDATION

Would you recommend that the sponsor approve this application for a public charter school? Explain your recommendation in the Summary Comments section, below.

Check one *(required)*

- ☐ DENY
- ☐ APPROVE

SUMMARY COMMENTS *(1200 char. max)*

Summarize your assessment of the application focusing on key strengths and concerns, as applicable.

Signature

Date

Printed Name

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Evaluator:

Evaluation Detail
A.1 Mission, Vision and Educational Philosophy

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Present a compelling 1-2 sentence mission statement that defines the purpose of the school;
- Identify the school's philosophical approach to educating students – ensure that priorities are meaningful, manageable and measurable, and focus on improving student outcomes; and
- Present a coherent vision of what the school will look like in 5–10 years if it is achieving its mission.

Applicant Instructions

A. Education Plan

The Education Plan should define what students will achieve; how they will achieve it; and how the school will evaluate performance. It should provide a clear picture of what a student who attends the school will experience with

(continues on reverse)

For Evaluator's Reference *(continued)*

respect to educational climate, structure, assessment and outcomes.

A.1 Mission, Vision and Educational Philosophy

State the school's mission and briefly present your vision for how the school will operate. Describe the school's educational foundation and the culture or ethos. Include an overview of the instructional methods and any research or experience that indicates why you have chosen to use this approach with your anticipated student population.

STATUTORY REFERENCE(S): § 160.405.1

Evaluator:

Evaluation Detail
A.2 Curriculum and Instruction

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

If the school intends to develop core curricula following approval, a response that meets the standard will

- Present a viable plan for development of the curricula for core academic areas and for ensuring alignment with Missouri Show-Me Standards and GLEs;
- Describe the framework for development of the curricula for core subjects; and
- Identify a sound research, experience or theoretical base and foundational materials that will guide curriculum development; and

Present a coherent framework for professional development that is likely to support effective development and implementation of the education program.

(continues on reverse)

For Evaluator's Reference *(continued)*

Applicant Instructions

A.2 Curriculum and Instruction

Provide a description of the curriculum to be used by the school, including measurable objectives and subject area content and skills for each grade level. Show how the curriculum aligns with the Missouri Show-Me Standards and Grade Level Expectations (GLEs). Discuss the specific instructional strategies that will be relevant or necessary to successful implementation of the curriculum. Discuss how curriculum and instruction needs are reflected in plans for professional development.

For core subjects, include sample lessons from two different grade levels that illustrate strategies for implementation of the curriculum consistent with the mission and educational philosophy.

If the school intends to use curricula that have already been developed, a response that meets the standard will

- Be consistent with the school's mission, education program design;
- Present a clear and coherent framework for teaching and learning – particularly in core academic areas – and will demonstrate alignment with Missouri Show-Me Standards and GLEs;
- Demonstrate understanding of relevant instructional strategies; and
- Present a coherent framework for professional development that is likely to support effective implementation of the curriculum.

STATUTORY REFERENCE(S): § 160.405.1(2).

Evaluator:

Evaluation Detail
A.3 Career Education
If applying for Perkins

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will:

- Present a compelling rationale consistent with business and industry needs, student interests, and advisory committee recommendations;
- Present measureable program goals and objectives;
- Present learning objectives, content, credits and skills appropriate for the anticipated student populations, that are aligned with Show-Me Standards, Grade Level Expectations (GLEs) and appropriate business/industry standards;
- Include a convincing plan for transitioning students to work, further training, or higher education;
- A complete assessment plan to measure student progress; and

(continues on reverse)

For Evaluator's Reference *(continued)*

- A complete plan for evaluating the effectiveness of the program.

In addition to the items listed above, schools seeking funding under the Carl D. Perkins Career and Technical Education Act of 2006 must have the previously mentioned items plus:

Affirmation that a local plan will be submitted and will adhere to all the rules and regulations of the Act and will meet the core indicators of performance:

- Attainment of challenging academic content standards and academic achievement standards;
- Attainment of career and technical skill proficiencies;
- Attainment of a secondary diploma or equivalency, a proficiency credential, certificate, or degree in conjunction with a secondary school diploma;
- Graduation rates;
- Placement in postsecondary education or advanced training, in military service, or in employment; and
- Participation in and completion of career and technical education programs that lead to non-traditional fields.

Applicant Instructions

A.3 Career Education

Applicants who intend to operate career education programs must complete the Application for Approval of Career Education Programs. Specifically, the applicant should present the following:

- Provide the rationale for the program. Include results of community-based assessments, student interest survey data, advisory committee recommendations, and needs identified by business and industry/employment outlook. Note: The student interest survey data must be derived from Missouri Connections or a similar student interest assessment.
- List the program goals and objectives in measurable terms.
- Provide a topical outline of major units of instruction in the proposed program.
- Identify program instructional contact hours, course sequence, and grade levels (if applicable).
- Identify major methods of instructional delivery (laboratory, classroom, project-based, problem-based, etc.).
- Identify the Career and Technical Student Organization and describe how it will be used to support curriculum, instruction, and assessment.
- Identify postsecondary partners and/or business/apprenticeship partners. Provide a brief summary of possible postsecondary articulation agreements/dual credit agreements and/or partnership agreements that will be put in place once program/course is operational.
- Identify and describe opportunities for assisting students in transitions to the workplace or continued education through such activities as experiential education, cooperative education, internships, apprenticeships, job shadowing, and job placement.
- Identify the assessment plan to measure student progress including competency achievement.
- Identify the plan for evaluating the effectiveness of the program, including evaluation instrument(s) used, methods of evaluation, and how results will be used for program improvement. For secondary level programs, identify the process for including program improvements in the overall district Comprehensive School Improvement Plan (CSIP).

STATUTORY REFERENCE(S): 160.405.2

Evaluator:

Evaluation Detail
A.4 School Calendar and Daily Schedule

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Satisfy the requirement for a full school term as defined in Mo. Rev. Stat. § 160.011;
- Comply with minimum requirements for the number of school days and hours pursuant to Mo. Rev. Stat. § 160.041;
- Align with the school's educational mission and goals; and
- Provide, in advance, for the make up of a minimum of six inclement weather closure days pursuant to Mo. Rev. Stat. § 171.033.2.

(continues on reverse)

For Evaluator's Reference *(continued)*

Applicant Instructions

A.4 School Calendar and Daily Schedule

Present the school calendar showing the number of days the school will be in session and sample daily class schedules showing daily hours of operation and allocation of time for core instruction, supplemental instruction, extra-curriculars, and after-school activities, as applicable.

Required Exhibits

- ☐ Sample daily schedule for one grade in each division at which the school intends to operate (elementary, middle and/or high school)
- ☐ Annual calendar for the first year of operation

STATUTORY REFERENCE(S): § 160.405.1; 160.405.5(2); 160.041

Evaluator:

Evaluation Detail
A.5 Target Population

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Present evidence to indicate that the enrollment projections by grade and school-wide for each year of the charter are realistic; and
- Demonstrate a clear understanding of the students the school intends to and is likely to serve;
- Present a persuasive explanation of how the proposed mission, curriculum, teaching methods and services are likely to meet the needs of the target population

Applicant Instructions

A.5 Target Population

The section on the Target Population should include a completed Anticipated Enrollment Table for each year of the school's proposed charter. It should describe the

(continues on reverse)

For Evaluator's Reference *(continued)*

anticipated population of the school and should explain how the proposed mission, curriculum, teaching methods and services align with the educational needs of that population.

STATUTORY REFERENCE(S): § 160.405.2(4)

Dropout and At-Risk Populations
Missouri sponsors are required to grant at least one-third of charters to schools that actively recruit dropouts or high-risk students as their student body. A "high-risk" student is one who is at least one year behind in satisfactory completion of course work or obtaining credits for graduation, pregnant or a parent, homeless or has been homeless sometime within the preceding six months, has limited English proficiency, has been suspended from school three or more times, is eligible for free or reduced-price school lunch, or has been referred by the school district for enrollment in an alternative program. To the extent that the applicants intend to serve a high dropout and/or at-risk population, the response should focus on this group, in particular.

Evaluator:

Evaluation Detail
A.6 Special Student Populations

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Demonstrate understanding of and capacity to meet state and federal requirements regarding identification and education of the likely ELL population;
- Demonstrate understanding of and capacity to meet state and federal requirements regarding the identification and education of students with disabilities;
- Indicate a commitment to serving the full range of needs of students with disabilities; and

Indicate a commitment to serving the full range of needs of special education students.

Applicant Instructions

A.6 Special Student Populations

Describe the school's plan for educating children with special needs, particularly those with limited English

(continues on reverse)

For Evaluator's Reference *(continued)*

proficiency and those identified with disabilities. Explain specifically how these students will be identified, how the school will develop plans for their education, how their progress will be monitored, and how the school has budgeted and staffed to meet those responsibilities. In addition, explain how the school's curriculum and approach to instruction will be designed or adapted to serve those students.

STATUTORY REFERENCE(S): § 160.405.1(2).

Evaluator:

Evaluation Detail
A.7 School-Specific Goals and Objectives

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Align with the school's mission and educational program;
- Define goals and objectives that are specific, measurable, ambitious and attainable, relevant and time-bound;
- Align with the sponsor's performance expectations outlined in the Missouri monitoring and renewal framework;
- Set high standards for student learning; and
- Present clear criteria for promotion from one level to the next, and for graduation.

(continues on reverse)

For Evaluator's Reference *(continued)*

Applicant Instructions

A.7 School-Specific Goals and Objectives

Like all public schools, charter schools are subject to state accountability requirements. For all approved schools, the charter contract will include a set of core educational performance expectations that reflect state accountability requirements and the sponsor's performance expectations outlined in the Missouri monitoring and renewal framework. In addition to those standard requirements, most schools have goals that are particular to the school's educational philosophy and organizational priorities.

Identify two key academic goals and one non-academic goal for which the school plans to hold itself accountable. Explain how those performance standards align with the school's mission, the proposed educational program, the statewide accountability system, and the statewide accountability system.

Well-developed school-specific goals will have the following characteristics:

- Specific
- Measurable (based on identified indicators and expected performance levels and a reliable measurement instrument)
- Ambitious and attainable
- Relevant (to your mission)
- Time-bound

Following are examples of performance goals.

Example 1: Student Gains
At all grade levels, students at the charter school will average 1.1 Years of academic growth as measured by multiple administrations of a nationally norm-referenced growth-measured exam.

Example 2: Performance Status
(Percent) of students enrolled at the charter school for a three consecutive year period will achieve proficient or advanced status on the state's annual MAP test assessment.

Example 3: Student Re-Enrollment (Non-academic)
The charter school will retain (percent) of its enrolled students year-to-year during its first three years of operation.

Example 4: Parent Satisfaction (Non-academic)
The charter school will demonstrate a (percent) overall satisfaction rating in an annual survey administered to parents or designated legal guardians of students attending the school during each academic year.

STATUTORY REFERENCE(S): § 160.405.1(1); 160.405.1(4); 160.405.5(6).

Evaluator:

Evaluation Detail
A.7.1 Comprehensive Performance Measures

optional for high-risk and alternative schools

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Present performance measures that are a valid and reliable means for determining whether students are meeting performance standards;
- Ensure that the school will be held to the same performance standards as other schools; and
- Be specific about the time frame in which students will be expected to meet the performance standards.

Applicant Instructions

A.7.1 Comprehensive Performance Measures

Missouri's charter school law places a priority on meeting the needs of high-risk and alternative populations. Such schools will be held to the same performance standards as other schools, but students in those schools may meet

(continues on reverse)

For Evaluator's Reference *(continued)*

performance standards on a different time frame.

Applicants proposing to operate an alternative charter school or one serving high-risk students in which students may propose comprehensive school-specific academic and behavioral measures.

Describe the comprehensive academic and behavioral measures that the school proposes to use. Explain how those measures align with the school's mission, the proposed educational program, and the statewide accountability system.

If approved, the comprehensive measures will be used in addition to standardized public school measures to evaluate school performance.

STATUTORY REFERENCE(S): § 160.405.5(6)(b).

Evaluator:

Evaluation Detail
A.8 Assessment

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Align with the school's mission and overall educational priorities;
- Demonstrate understanding of the school's obligation to participate in the statewide system of assessment and accountability;
- Present a clear, credible, and sound plan for measuring and reporting the educational performance and progress of individual students, cohorts, and the charter school as a whole including valid and reliable measures of student outcomes;
- Explain how the school will use assessment data to drive key decisions aimed at improving academic outcomes; and

(continues on reverse)

For Evaluator's Reference *(continued)*

- Demonstrate understanding of and commitment to compliance with assessment requirements applicable to all Missouri public schools consistent with state law and relevant policies of the state board of education including the MAP and end of course exams, as applicable.

Applicant Instructions

A.8 Assessment

Describe the school's approach to assessment. Explain how the school will evaluate progress of individual students, cohorts over time, and the school as a whole toward meeting the statewide requirements. In particular, describe how the school will determine proficiency (by grade, achievement level, or grouping level) for mathematics, communication arts and one other subject area on an interim basis. For high school courses, what is the school's plan for developing and using end of course assessments?

What are the school's policies and criteria for promoting students to the next level and for graduation from the school?

How will the school use assessment information to modify the educational program and improve instruction, student learning and staff development?

STATUTORY REFERENCE(S): § 160.405.1(2); 160.405.5(6); 160.518

Evaluator:

Evaluation Detail
A.9 School Climate and Discipline

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Describe an approach to student discipline that is reasonably likely to promote a safe and orderly learning environment; and
- Present legally sound policies for student discipline, suspension, dismissal and expulsion or a reasonable plan for their development; and
- Outline a clear strategy for engaging parents and guardians in the life and culture of the school; and
- Include evidence that the school will ensure a safe environment conducive to learning

Applicant Instructions

A.9 School Climate and Discipline

Describe the strategies the school will employ to develop and sustain a safe and orderly school climate that supports

(continues on reverse)

For Evaluator's Reference *(continued)*

fulfillment of the educational goals. Explain the school's student behavior philosophy and discipline policy or code of conduct for both the general student population and for students with special needs. The full discipline policy should be included as an attachment if already developed.

Explain how the school will encourage family involvement and communication to support student learning, and how it will gauge satisfaction with school climate

STATUTORY REFERENCE(S): § 160.405.1(6)

Evaluator:

Evaluation Detail
B.1 School-Specific Goals and Objectives

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Present proper documentation that the entity proposing to hold the charter is a Missouri nonprofit corporation;
- Documentation of LEA status, if applicable, and

In the case of pre-existing organizations, demonstrate that the operation of the proposed school is consistent with the organization's overall mission and operation.

Applicant Instructions

B. Organizational Plan

The organizational plan should provide an understanding of how the school will be operated, beginning with its governance and management. It should present a clear picture of the school's operating priorities, delegation of responsibilities, and relationships with key stakeholders.

(continues on reverse)

For Evaluator's Reference *(continued)*

B.1 School-Specific Goals and Objectives

Describe the entity that will hold the charter and be responsible for governing the school. Provide documentation of the entity's legal status including Articles of Incorporation, Bylaws and documentation of legal not-for-profit status.

To the extent that the organization exists and has functions independent of the operation of the proposed school, provide a brief description of the organization, its history, its current operation, and the relationship between its existing operations and the proposed school.

Required Exhibits

- ☐ Articles of Incorporation
- ☐ Corporate By-Laws
- ☐ Documentation that the applicant is a Missouri nonprofit corporation and has applied for and/or received not-for-profit status from the Internal Revenue Service
- ☐ Documentation of criminal background checks for all prospective board members or assurance of satisfactory completion as a condition of service
- ☐ Documentation of child abuse registry checks for all prospective board members or assurance of satisfactory completion as a condition of service

STATUTORY REFERENCE(S): § 160.400.5; 160.400.11; 160.405.1(5); 160.405.2(1)

Evaluator:

Evaluation Detail
B.2 Governing Board Composition

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will indicate that the board

- Has capacity to oversee the successful development and implementation of the education program presented in the application;
- Has capacity to oversee the effective and responsible management of public funds;
- Has capacity to oversee and be responsible for the school's compliance with its legal obligations;
- Will represent the community well;
- Is aware of their duties and responsibilities as public servants in accordance with RSMo section 105.450; and
- Will generally have the capacity to found and sustain a quality school.

(continues on reverse)

For Evaluator's Reference *(continued)*

Applicant Instructions

B.2 Governing Board Composition

List the members of the proposed governing board including their names, current employment, and relevant experience or qualifications for serving on the board including but not limited to relationship to the community in which the school will be located.

For each proposed governing board member, the application should include, as an attachment, a resume or CV, and the completed form labeled *Appendix A: Request for Information from Prospective Charter School Board Members.*

Describe any specific plans for recruitment of additional governing board members including but not limited to plans that would involve parental, professional educator or community involvement in the governance of the school.

Required Exhibits

- ☐ Prospective Board Member Resumes or C.V.s
- ☐ Completed form labeled appendix a: request for information from prospective charter school board members for all prospective board members

STATUTORY REFERENCE(S): § 160.405.1(5); 160.405.2(1); 105.450

Evaluator:

Evaluation Detail
B.3 Management and Operation

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will include

- Clear delineation of the roles and responsibilities for administering the day-to-day activities of the school;
- Demonstrated understanding of management needs and priorities; and
- A staffing plan that appears viable and adequate for effective implementation of the proposed educational program.

Applicant Instructions

B.3 Management and Operation

Describe the organizational structure of the school and its day-to-day operation. Explain the management roles and responsibilities of key administrators with respect

(continues on reverse)

to instructional leadership, curriculum development and implementation, personnel decisions, budgeting, financial management, legal compliance, and any special staffing needs.

Your response should describe the primary responsibilities for each key management position and should identify critical skills or experience that will be priorities for fulfillment of those responsibilities. Give particular attention to the roles, responsibilities and actual (if already identified) or desired qualifications of the school leader. Discuss any plans for recruiting and selection of the school leader if no already identified.

Required Exhibits

- ☐ Organizational Chart that shows the staffing structure and reporting responsibilities for the board, administration and staff
- ☐ Key position descriptions including critical skills or experience every employee that they intend to hire based on organizational chart (description can be general for core teachers). Qualifications for hiring should provide assurance that background checks and child abuse registry will be conducted for every employee in accordance with the law.

STATUTORY REFERENCE(S): § 160.405.1(5)

Evaluator:

Evaluation Detail
B.3.1 Education Service Providers

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

All applicants are asked to declare whether they intend to contract with an education service provider (ESP). The term "education service provider" refers to any number of organizations that contract with the governing board of a school to provide comprehensive services. The major types of ESPs that serve charter schools are education management organizations (EMOs), charter management organizations (CMOs), and comprehensive school design providers.

After making the initial declaration, applicants should complete the remainder of the section only if the school expects to contract with an ESP. Other applicants should proceed directly to the next section, Community Involvement.

Evaluation Criteria

The response should present a clear picture of the contractual relationship and accountability between the ESP and the school's governing board that is consistent with the school's mission and educational program.

(continues on reverse)

For Evaluator's Reference *(continued)*

A response that meets the standard will present

- A persuasive explanation of the reasons for contracting with an education service provider, in general, and this provider, in particular;
- A sense of how the proposed relationship with the ESP will further the school's mission and program;
- A clear description of the services to be provided by the ESP;
- A coherent delineation of the roles and responsibilities between the school's governing board, management and the ESP; and

ESP performance expectations that are consistent with the school's accountability requirements and the means by which the board will hold the ESP accountable for meeting those expectations.

Applicant Instructions

B.3.1 Education Service Providers

Select the statement that is applicable and proceed as directed:

□ We intend to contract with an education service provider. *Continue with completion of this section.*

□ We do not intend to contract with an education service provider. *Skip to the next section.*

If the school expects to contract for services with an education service provider, discuss the school's decision to work with an ESP, in general, and the selected ESP, in particular. Describe the planned relationship between the school and the ESP and how that relationship will further the school's mission and program. Provide a clear description of the services to be provided by the ESP. Describe the ESP's roles and responsibilities in relation to the school's management and governing board. Describe the school's performance expectations for the ESP. In other words, how will the school evaluate esp performance?

Required Exhibits

- Background information on the ESP including relevant performance data for other schools that the ESP has managed
- A list of any other schools managed by the ESP in the state of Missouri with contact information
- The services agreement as executed between the school and the ESP (or template version if not yet executed)

STATUTORY REFERENCE(S): § 160.405.1(5)

Evaluator:

Evaluation Detail
B.4 Staffing and Human Resources

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Present strategies for recruiting and retaining effective teachers that are realistic and reasonably likely to be effective;
- Demonstrate a sound understanding of staffing needs that are aligned with the budget and with the school's anticipated enrollment;
- Demonstrate a sound understanding of staffing needs with respect to successful implementation of the educational program; and
- Present a plan that is reasonably likely to attract and retain effective staff.

(continues on reverse)

For Evaluator's Reference *(continued)*

Applicant Instructions

B.4 Staffing and Human Resources

Discuss the staffing plan for the term of the charter including anticipated staffing needs and recruitment strategies. Discuss how the plan supports sound operation and successful implementation of the school's educational program.

Describe the instructional skills, experience, and development that teachers will need to have in order to be successful. How are those needs reflected in the plan for teacher recruitment?

Include a draft of a Staff Handbook or Employment Manual if developed. In responding to this section, consider the following questions:

- What strategies does the school have for recruiting and retaining effective teachers?
- How do the staffing-related budget assumptions align with educational program needs?
- How does the staffing plan reflect the anticipated enrollment and growth of the school?
- How will the school determine appropriate experience, training and skills of non-certificated instructional personnel?
- What will be the employer-employee relationship for staff at the school?

STATUTORY REFERENCE(S): § 160.415

Evaluator:

Evaluation Detail

B.4.1 Four-year College and/ or University Affiliation

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

A college or university affiliation is not required for a charter school. Applicants should respond to and be evaluated on this section only if they propose to have a college or university affiliation.

Evaluation Criteria

A response that meets the standard will

- Present a clear plan for college or university affiliation that is aligned with and likely to further the school's mission;
- Demonstrate a substantial likelihood that the school will be successful in establishing the proposed affiliation; and

(continues on reverse)

For Evaluator's Reference *(continued)*

- Demonstrate that the college or university has the capacity and commitment to fulfill its anticipated role.

Applicant Instructions

B.4.1 Four-year College and/or University Affiliation

Discuss any affiliation that the school intends to have with a four-year college or university, including a private college or university, or a community college. Address the specific purpose(s) of the affiliation including teacher training and staff development, curriculum and assessment development, use of physical facilities, or other purposes beyond sponsorship duties.

Describe your plans for developing the affiliation and any steps already taken. Include evidence that you are likely to be successful in establishing the proposed affiliation such as letters of support or other documentation of commitment from the college or university.

STATUTORY REFERENCE(S): § 160.405.8.

Evaluator:

Evaluation Detail
B.5 Student Recruitment and Enrollment

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Include an outreach and recruitment plan that demonstrates understanding of the community to be served and is likely to be effective including for families traditionally less informed about educational options;
- Present enrollment projections that are supported by evidence of actual or potential demand; and
- Include enrollment and admissions policies and plans that comply with the requirements of section 160.410.

Applicant Instructions

B.5 Student Recruitment and Enrollment

In the table provided, enter enrollment projections for the school, by year, for the first five years of operation.

Describe the plan for recruitment and enrollment of students. Explain how the school will be publicized and

(continues on reverse)

For Evaluator's Reference *(continued)*

marketed throughout the community to a broad cross-section of families and prospective students. What strategies will you use to reach families that are traditionally less informed about educational options?

Include an explanation and evidence to support the enrollment projections. Relevant evidence may include, among other things, the following:

- Community demographic information (numbers of potential students);
- Documentation of community or family demand for the proposed school such as letters of intent to enroll; and
- Enrollment data from schools currently operating in community.

Describe the proposed enrollment process and provide assurances that the charter school will comply with the requirements of section 160.410, Rev. Stat. Mo.

If the charter school intends to establish admissions preferences based on a geographical area around the school, sibling enrollment in the school, parent employment at the school, or – in the case of a workplace charter – parent employment in the business district or business site of the school, provide a clear description of the proposed preference and how it will apply in the event that capacity is insufficient to enroll all pupils who submit a timely application.[1]

STATUTORY REFERENCE(S): § 160.410

[1] *Specific attendance limitations apply for charter schools sponsored in Kansas City and St. Louis. In Kansas City, a parent must be resident in the district. In St. Louis, a parent needs to meet residency or non-minority or non-minority requirements depending on the county. Sponsors receiving applications for Kansas City and St. Louis should consult legal counsel or the Department of Elementary and Secondary Education for charter school enrollment guidance.*

Evaluator:

Evaluation Detail
B.6 Community Involvement

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Present a vision and strategy for community involvement that is reasonably likely to further the school's mission and program; and

Provide evidence that anticipated partnerships are realistic and achievable.

Applicant Instructions

B.6 Community Involvement

Discuss your plans for community involvement in the governance and operation of the school. Describe the nature of potential partnerships including examples of how community partners will play an integral part in the life of the school and identify specific organizations with which the school is already working, or likely to partner.

(continues on reverse)

For Evaluator's Reference *(continued)*

Describe your plans for developing community partnerships and any specific steps you have already taken. Include in your response relevant documentation such as letters of support or commitments to provide or share resources.

STATUTORY REFERENCE(S): § 160.405.1(5); 160.420.5

Evaluator:

Evaluation Detail
B.6.1 Joint Application

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

The following section should be completed if, pursuant to section 160.400.8, Rev. Stat. Mo., The school proposes to be affiliated with a college, university, museum, educational institution, other not-for-profit organization, or other partner that is not an educational service provider. Applicants that do not plan to have such an affiliation should proceed directly to part C, business plan.

Evaluation Criteria

A response that meets the standard will

- Include complete information about each affiliated partner;
- Provide documentation regarding the terms of the joint partnership;

Present persuasive evidence that the plan for the affiliation is sound and that the purpose(s) is/are likely to support

(continues on reverse)

achievement of the school's mission.

Applicant Instructions

B.6.1 Joint Application

If you are proposing to affiliate with a college, university, museum, educational institution, other not-for-profit entity, or any other partner, describe the rationale for the affiliation, the benefit that the school expects to receive from the partnership, and provide the following information for each affiliated organization:

- Name of the organization;
- A letter of intent or commitment from a bona fide representative of the partner organization indicating that the organization is undertaking the affiliation and the terms and extent of the undertaking;
- The name of a contact person for the partner organization; and
- Contact information (address, phone number, facsimile number, and e-mail address) for the contact person at the affiliated organization;
- A description of the nature and purpose of the proposed affiliation including the specific purpose(s) for the affiliation (e.g., Teacher training and staff development, curriculum and assessment, access to physical facilities, etc.).

STATUTORY REFERENCE(S): § 160.400.8

Evaluator:

Evaluation Detail
C.1 Budget

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Present budget priorities that are consistent with and support key parts of the plan, including the school's mission, educational program, staffing and facility;
- Present realistic, evidence-based revenue and expenditure assumptions, including for any plan to incur and repay debt;
- Present viable strategies for meeting potential budget and cash flow challenges, particularly for the first year of operation; and
- Demonstrate a commitment to maintaining the financial viability of the school.

(continues on reverse)

Applicant Instructions

C. Business plan

The business plan should provide an understanding of how the applicants intend to develop and manage the school's infrastructure and finances. It should present a clear picture of the school's revenue projections; expenditure requirements; facilities needs; transportation and food service plans; and pre-opening plan.

C.1 Budget

Use the *Charter School Budget Template* (*Appendix B*) to detail the school's estimated revenues and expenditures for the proposed term of the charter including the pre-operational startup year.

Provide a cash flow analysis for the first fiscal year of operation (July 1–June 30).

Include explanation and discussion of key budget assumptions underlying the budget projections and explain how the budget aligns with and supports implementation of the educational program. If the school anticipates incurring debt for any reason, such as for acquisition of its facility, the budget must address the schedule for debt repayment and the budget discussion should elaborate on the repayment assumptions and plan.

Discuss the school's contingency plans for cash flow challenges, a budget shortfall, lower than expected student enrollment or other financial challenges in the early years of operation?

Required Exhibits

- ☐ Budget for the proposed charter term
- ☐ Opening year cash flow analysis

STATUTORY REFERENCE(S): § 160.405.1; 160.415.11

Evaluator:

Evaluation Detail
C.2 Financial Management

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Demonstrate understanding of the school's financial management obligations;
- Present evidence that the school is prepared to adhere to generally accepted accounting practices and the Missouri Financial Accounting Manual;
- Present evidence that the school will has or has capacity to develop adequate policies and processes for tracking enrollment and attendance eligibility, eligibility for free and reduced priced lunch; special education and limited English proficient enrollment; and

Demonstrate preparation to meet its insurance, annual audit, annual financial report and other key financial management obligations.

(continues on reverse)

For Evaluator's Reference *(continued)*

Applicant Instructions

C.2 Financial Management

Describe the systems and procedures for managing the school's finances and identify the staff position(s) that will be responsible for financial oversight and management. Describe how the school's finances will be managed and who will be responsible for the protection of student and financial records. Your response should address, among other things, the school's plans in the following areas:

- Provisions for an annual audit consistent with its LEA status;
- Development and dissemination of an annual financial report; and
- Providing recommended liability insurance to indemnify the school, its board, staff and teachers against tort claims.

STATUTORY REFERENCE(S): § 160.405.1; 160.405.5(4)

Evaluator:

Evaluation Detail
C.3 Facility

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Reflect a sound understanding of facilities needs;
- Demonstrate knowledge of facilities costs including, as applicable, cost of purchasing, leaseing, building, or renovating an educational facility that conforms to applicable health, safety, and occupancy requirements;
- Present evidence to support facilities-related budget assumptions;
- Include evidence that the proposed facility will be adequate *or* present a plan for securing a facility that is appropriate and adequate for the school's educational program, anticipated location, and target population; and
- Demonstrate that the school's plan for acquisition of a facility is financially viable.

(continues on reverse)

For Evaluator's Reference *(continued)*

Applicant Instructions

C.3 Facility

Discuss the school's facility needs based on the educational program and anticipated enrollment. If the applicants have identified a facility, indicate the location (street address, city, and zip code) and provide either floor plans or a description including, at a minimum, the number and size of the classrooms, common areas, administrative areas, recreational space, any community facilities, and any residential facilities. Explain how the facility will meet the needs of students and provide an assurance that it will be accessible to students with physical disabilities.

To the extent that the school has discussed or established specific lease or purchase terms, include discussion of the proposed terms and any draft agreements. If the school intends to lease facilities from a school district, pursuant to section 160.405.9, Discuss the status of those plans and provide evidence of any district commitments.

To the extent that the facility will require renovation or 'build out,' describe those plans including anticipated timing and cost.

If the school anticipates incurring debt as part of its facilities acquisition plan, the budget must include a repayment plan, as indicated in the Budget section, above.

If a facility has not been selected, specify potential locations that are under consideration and discuss the process and time line for selecting, acquiring, renovating (if appropriate) and taking occupancy of a suitable facility.

STATUTORY REFERENCE(S): §§ 160.405.5(2),(4)

Evaluator:

Evaluation Detail
C.4 Transportation

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

If the applicants have elected to provide transportation, a response that meets the standard will

- Present a thorough, realistic, and cost-effective transportation plan; and
- Provide specific evidence of third party readiness and terms for providing transportation services consistent with the school's budget assumptions. 3rd party must collect required information [include in application].

If the applicants have elected not to provide transportation, a response that meets the standard will

- Present a clear statement of the school's intent not to provide transportation services;
- Describe viable transportation options for students; and
- Describe contingency plans for students requiring transportation due to a physical disability.

(continues on reverse)

For Evaluator's Reference *(continued)*

Evaluation note
with the exception of related services required under an Individualized Education Plan, charter schools are not required to provide transportation for students to and from the school.

Applicant Instructions

C.4 Transportation

State whether the school intends to provide transportation for students. If so, describe the transportation plan and explain budget revenue and expenditure assumptions including those related to anticipated state aid pursuant to section 163.161 R.S.Mo.

If the school intends to contract with the local district or any other third party for transportation services, discuss the status of those plans and provide evidence of the third party's readiness and terms for providing those services.

STATUTORY REFERENCE(S): § 160.415.8.

Evaluator:

Evaluation Detail
C.5 Insurance

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will

- Evidence of requisite insurance coverage or ability to obtain requisite insurance coverage

Evidence of requisite surety bond for school CFO or ability to obtain requisite surety bond

Applicant Instructions

C.5 Insurance

Provide evidence of ability and preparation to obtain liability insurance coverage (minimum A-BEST rating) in the following areas:

- Directors' and Officers' Liability
- Commercial General Comprehensive Liability that also expressly covers corporal punishment and athletic

(continues on reverse)

For Evaluator's Reference *(continued)*

participation

- Educators' Legal Liability
- Employment Practices Liability
- Sexual Abuse Liability (separate policy or a separate part of general comprehensive insurance with independent limits)
- Automobile Liability
- Excess Liability or Umbrella (i.e., bundled commercial general liability, directors' and officers' liability, legal liability, employment practices liability, automobile liability, and sexual abuse liability)
- Workers Compensation Liability
- Surety bond for the school's chief financial officer in an amount to be determined based on the cash flow of the school.

Include evidence to support the budget expense assumptions related to insuring the schools such as copies of broker or agency estimates.

STATUTORY REFERENCE(S): § 160.405.11; 160.405.13.

Evaluator:

Evaluation Detail
C.6 Pre-Opening Plan

Check one *(required)*

- ☐ MEETS THE STANDARD
- ☐ PARTIALLY MEETS THE STANDARD
- ☐ DOES NOT MEET THE STANDARD

STRENGTHS *(500 char. max)*

Reference

CONCERNS AND ADDITIONAL QUESTIONS *(500 char. max)*

Reference

For Evaluator's Reference

Evaluation Criteria

A response that meets the standard will demonstrate understanding of key pre-opening responsibilities consistent with the school's education, organizational and business plans.

Applicant Instructions

C.6 Pre-Opening Plan

Provide a Pre-Opening Plan that documents key tasks to be completed between approval of the application and opening of the school. Include a schedule for initiation, development and completion those tasks, identify primary responsibility by individual or position, and document anticipated resource needs.

STATUTORY REFERENCE(S): § 160.405.5.

MISSOURI DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION
Kansas City & Charter Schools April 2010 Payment Calculation

	Name	Estimated Payment Weighted ADA	Preliminary FY10 Annualized Amount per Weighted ADA	Annualized Total	Charter Sponsor Withholding Calculation	Annualized minus Charter Sponsor Calculation	Net to Charter	10/12th of Annual Amt	Less July-March Payments	**Basic Formula April Payment**	**April**				
											Basic Formula			Prop C	
											CTF	ARRA	State	Payment	Total
048901	University Academy	1,262.8060	$8,014.3178	$10,120,529	$125,000	$9,995,529	$9,995,529	$8,329,608	$7,495,700	**$833,908**	36,180	0.00	$797,728	72,445.54	$906,353.54
048902	Alta Vista Charter Sch.	292.5434	$8,014.3178	$2,344,536	$35,168	$2,309,368	$2,309,368	$1,924,473	$1,715,401	**$209,072**	4,969	0.00	$204,103	13,889.45	$222,961.45
048903	Don Bosco Education Center	195.9086	$8,014.3178	$1,570,074	$23,551	$1,546,523	$1,546,523	$1,288,769	$1,159,748	**$129,021**	4,676	0.00	$124,345	10,160.37	$139,181.37
048904	Hogan Preparatory Academy	379.8896	$8,014.3178	$3,044,556	$45,668	$2,998,888	$2,998,888	$2,499,073	$2,248,885	**$250,188**	9,054	0.00	$241,134	18,209.24	$268,397.24
048905	Genesis School Inc.	561.4380	$8,014.3178	$4,499,543	$67,493	$4,432,050	$4,432,050	$3,693,375	$3,323,622	**$369,753**	12,208	0.00	$357,545	21,878.19	$391,631.19
048907	Urban Com. Leadership Academy	217.5926	$8,014.3178	$1,743,856	$26,158	$1,717,698	$1,717,698	$1,431,415	$1,288,113	**$143,302**	5,243	0.00	$138,059	10,811.30	$154,113.30
048909	Allen Village Charter	528.0713	$8,014.3178	$4,232,131	$63,482	$4,168,649	$4,168,649	$3,473,874	$3,126,097	**$347,777**	15,392	0.00	$332,385	31,732.33	$379,509.33
048910	Lee A. Tolbert Com. Academy	703.1878	$8,014.3178	$5,635,571	$84,534	$5,551,037	$5,551,037	$4,625,864	$4,162,758	**$463,106**	20,657	0.00	$442,449	41,376.77	$504,482.77
048911	B. Banneker Charter Academy	378.4260	$8,014.3178	$3,032,826	$45,492	$2,987,334	$2,987,334	$2,489,445	$2,240,221	**$249,224**	6,955	0.00	$242,269	14,906.29	$264,130.29
048912	Della Lamb Elem.	824.4595	$8,014.3178	$6,607,480	$99,112	$6,508,368	$6,508,368	$5,423,640	$4,880,667	**$542,973**	16,822	0.00	$526,151	43,879.21	$586,852.21
048913	Gordon Parks Elem.	255.8758	$8,014.3178	$2,050,670	$30,760	$2,019,910	$2,019,910	$1,683,258	$1,514,744	**$168,514**	6,697	0.00	$161,817	13,805.22	$182,319.22
048914	Academie Lafayette	599.5583	$8,014.3178	$4,805,051	$72,076	$4,732,975	$4,732,975	$3,944,146	$3,549,288	**$394,858**	15,158	0.00	$379,700	27,162.20	$422,020.20
048915	Scuola Vita Nuova	344.4663	$8,014.3178	$2,760,662	$41,410	$2,719,252	$2,719,252	$2,266,043	$2,039,185	**$226,858**	6,578	0.00	$220,280	18,471.78	$245,329.78
048916	Brookside Charter Sch.	534.3639	$8,014.3178	$4,282,562	$64,238	$4,218,324	$4,218,324	$3,515,270	$3,196,443	**$318,827**	13,080	0.00	$305,747	26,021.05	$344,848.05
048917	Derrick Thomas Academy	1,096.4065	$8,014.3178	$8,786,950	$125,000	$8,661,950	$8,661,950	$7,218,292	$6,495,641	**$722,651**	29,115	0.00	$693,536	59,010.02	$781,661.02
048918	KIPP:Endeavor Academy	195.2716	$8,014.3178	$1,564,969	$23,475	$1,541,494	$1,541,494	$1,284,578	$1,155,976	**$128,602**	3,270	0.00	$125,332	6,682.57	$135,284.57
048919	Imagine Ren. Acad. Env. Sci & Math	1,416.1536	$8,014.3178	$11,349,505	$125,000	$11,224,505	$11,224,505	$9,353,754	$8,411,764	**$941,990**	27,659	0.00	$914,331	58,445.14	$1,000,435.14
048920	Hope Academy	181.7625	$8,014.3178	$1,456,702	$21,851	$1,434,851	$1,434,851	$1,195,709	$1,076,005	**$119,704**	$0	0.00	$119,704	$0.00	$119,704.00
048921	Pathway Academy	413.2038	$8,014.3178	$3,311,547	$49,673	$3,261,874	$3,261,874	$2,718,228	$2,463,859	**$254,369**	$0	0.00	$254,369	$0.00	$254,369.00
048922	Frontier School of Innovation	331.1400	$8,014.3178	$2,653,861	$39,808	$2,614,053	$2,614,053	$2,178,378	$1,960,295	**$218,083**	$0	0.00	$218,083	$0.00	$218,083.00
	Total	10,712.5251		$85,853,581	$1,208,949	$84,644,632	$84,644,632	$70,537,192	$63,504,412	$7,032,780	$233,713	$0	$6,799,067	$488,886.67	$7,521,666.67
048078	Kansas City	25,573.4451	$2,401.1789 [1]	$61,406,417			$61,406,417	$51,172,014	$46,048,330	**$5,123,684**	$521,302	0.00	$4,602,382	$1,175,642.13	$6,299,326.13

[1] Annualized amount per Weighted ADA = Formula calc of $4,058.3178 minus $1,657.1389 retained by the State to pay local dollars to charters.

Charter payment weighted ADA equals the 2009-10 estimated weighted ADA.

MISSOURI DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION
St. Louis City & Charter Schools Payment Calculation - April 2010

	Name	Estimated Payment Weighted ADA	Preliminary FY10 Annualized Amount per Weighted ADA	Annualized Total	Charter Sponsor Withholding Calculation	Annualized minus Charter Sponsor Calculation	Net to Charter	10/12th of Annual Amt	Less July-March Payment	**Basic Formula April Payment**	April				
											Basic Formula			Prop C	
											CTF	ARRA	State	Payment	Total
115-901	Construction Career Ctr	344.7965	$7,431.4675	$2,562,344	$0 *	$2,562,344	$2,562,344	$2,135,287	$1,995,785	**$139,502**	$10,221	$0	$129,281	$21,060.28	$160,562.28
115-902	Lift for Life	509.6578	$7,431.4675	$3,787,505	$56,813	$3,730,692	$3,730,692	$3,108,910	$2,800,872	**$308,038**	$10,511	$0	$297,527	$21,908.27	$329,946.27
115-903	St. Louis Charter School	1,078.9439	$7,431.4675	$8,018,137	$120,272	$7,897,865	$7,897,865	$6,581,554	$5,918,616	**$662,938**	$27,910	$0	$635,028	$58,272.09	$721,210.09
115-904	Ethel Hedgeman Lyle Academy	799.2226	$7,431.4675	$5,939,397	$89,091	$5,850,306	$5,850,306	$4,875,255	$4,588,634	**$286,621**	$24,301	$0	$262,320	$49,304.22	$335,925.22
115-905	Paideia Academy	596.6197	$7,431.4675	$4,433,760	$66,506	$4,367,254	$4,367,254	$3,639,378	$3,272,795	**$366,583**	$15,300	$0	$351,283	$32,138.44	$398,721.44
115-906	Confluence Academies	3,507.0224	$7,431.4675	$26,062,323	$125,000	$25,937,323	$25,937,323	$21,614,436	$19,442,780	**$2,171,656**	$94,684	$0	$2,076,972	$195,547.84	$2,367,203.84
115-907	Imagine Academy of Success	514.3289	$7,431.4675	$3,822,219	$57,333	$3,764,886	$3,764,886	$3,137,405	$2,836,718	**$300,687**	$12,634	$0	$288,053	$26,849.21	$327,536.21
115-908	Imagine Academy of Careers	1,330.1894	$7,431.4675	$9,885,259	$125,000	$9,760,259	$9,760,259	$8,133,549	$7,382,866	**$750,683**	$41,970	$0	$708,713	$87,708.53	$838,391.53
115-909	Imagine Academy of Env. Sci & Math	1,384.0581	$7,431.4675	$10,285,583	$125,000	$10,160,583	$10,160,583	$8,467,153	$7,681,667	**$785,486**	$37,940	$0	$747,546	$78,773.13	$864,259.13
115-911	City Garden Montessori	82.9491	$7,431.4675	$616,434	$9,247	$607,187	$607,187	$505,989	$455,023	**$50,966**	$1,456	$0	$49,510	$2,807.84	$53,773.84
115-912	St. Louis Lang Immersion School	169.0800	$7,431.4675	$1,256,513	$18,848	$1,237,665	$1,237,665	$1,031,388	$927,500	**$103,888**	$0	$0	$103,888	$0.00	$103,888.00
115-913	North Side Community School	54.4288	$7,431.4675	$404,486	$6,067	$398,419	$398,419	$332,016	$246,851	**$85,165**	$0	$0	$85,165	$0.00	$85,165.00
115-914	KIPP St. Louis	93.4967	$7,431.4675	$694,818	$10,422	$684,396	$684,396	$570,330	$512,882	**$57,448**	$0	$0	$57,448	$0.00	$57,448.00
		10,464.7939		$77,768,778	$809,599	$76,959,179	$76,959,179	$64,132,650	$58,062,989	**$6,069,661**	$276,927	$0	$5,792,734	$574,370	$6,644,031
115-115	St. Louis City	29,927.6148	$2,468.6443 [1]	$73,880,636			$73,880,636	$61,567,197	$55,265,172	**$6,302,025**	$710,870	$0	$5,591,155	$1,534,504.18	$7,836,529.18

[1] Annualized amount per Weighted ADA = Formula calc of $3,754.4675 minus $1,285.8232 retained by the State to pay local dollars to charters.

*Payment to charter sponsor not applicable.

District Name:	If yes, what is the estimated cost to upgrade? (Please enter numbers only - not dollar signs or commas)
	Estimated cost
Academie Lafayette	327,000.00
Adair County R-I	
Adair County R-II	10,000.00
Adrian R-III School	20,000.00
Advance R-IV	100,000.00
Affton 101	70,000.00
Albany R-III	
Allen Village School	
Alta Vista Charter School	
Alton R-IV Schools	
Amanda Johnson	
Appleton City R-2 School	10,000.00
Arcadia Valley RII	50,000.00
Archie R-V School District	5,000.00
Ash Grove R-IV	100,000.00
Atlanta C-3	
Aurora R-VIII School District	
Ava R-I School District	200,000.00
Avenue City R-IX School District	50,000.00
Avilla R-XIII	40,000.00
Avilla R-XIII	30,000.00
Bakersfield R-4 School	
Ballard R-2	
Bayless School District	10,000.00
Bell City R-II	
Belleview R-III	30,000.00
Belton School District	1,000,000.00
Benjamin Banneker Charter Academy f Technc	65,000.00
Bernie School District	
Bevier C-4	0.00
Billings R-IV	2,500.00
Bismarck R-V	
Blackwater R-II	7,500.00
Blair Oaks R-II Schools	75,000.00
Bloomfield R-14 School District	80,000.00

District Name:	If yes, what is the estimated cost to upgrade? (Please enter numbers only - not dollar signs or commas)
	Estimated cost
Blue Eye R-V	140,000.00
Blue Springs R-IV	1,200,000.00
Bolivar R-I School District	
Boonville R-1 School District	
Bosworth R-V	
Bowling Green R-1	200,000.00
Bradleyville R-I	
Branson	150,000.00
Braymer C-4 School District	
Breckenridge R-I	
Brentwood	0.00
Bronaugh R-7	
Brookfield R-III School District	
Brunswick R-II School District	0.00
Buchanan County R-IV	
Bucklin R-II	
Bunker R3 School	55,000.00
Butler R-V	120,000.00
Cabool R-IV	
Calhoun R-VIII	1,200.00
CALLAO C-8 SCHOOL	
Camdenton R-III School District	
Cameron R-I School District	300,000.00
Campbell	10,000.00
Cape Girardeau School District	60,000.00
Carl Junction R-1 School District	
Carrollton R-VII School District	
Carthage R-9	50,000.00
Caruthersville #18	1,200.00
Cassville R-IV School District	
Center School District 58	
Centerville R-I	50,000.00
Central R-III	10,000.00
Centralia R-VI School District	0.00
Chadwick R-I School District	

District Name:	If yes, what is the estimated cost to upgrade? (Please enter numbers only - not dollar signs or commas)
	Estimated cost
Chaffee R-II	0.00
Chilhowee R-IV	1,200.00
Chillicothe R-II	
Clark County R-I	
Clarkton C4 School District	
Clearwater R-1	0.00
Clever R-V Public Schools	100,000.00
Climax Springs R-IV School	
Clinton County R-3	0.00
Clinton School District	
Cole Camp R-1	
Cole R-1 School District	
Columbia	
Community R-VI	
Concordia R-2 High School	
Confluence Academy	5,000,000.00
Construction Careers Center	
Cooper County R-4	7,500.00
Couch R-1 School District	100,800.00
Cowgill R-VI	0.00
Craig R-3	
Crane R-III	80,000.00
Crawford County R-I School District	100,000.00
Crocker R-II	14,000.00
Crystal City Public Schools 47	
Dallas County R-1	20,000.00
Davis R-XII	
De Soto 73 School District	90,000.00
Della Lamb Charter School	30,000.00
Delta C-7 School District	100,000.00
Delta RV	
Dent-Phelps R-III	0.00
Derrick Thomas Academy	0.00
Dexter R-XI School District	900,000.00
Diamond R-IV	8,000.00

District Name:	If yes, what is the estimated cost to upgrade? (Please enter numbers only - not dollar signs or commas)
	Estimated cost
Dixon R-1 Schools	
Don Bosco Education Center	
Doniphan R-1 School	500,000.00
Dora R-III School District	15,000.00
Drexel R-IV School	30,000.00
Dunklin R-5	
East Buchanan C-1	65,000.00
East Carter R-II	50,000.00
East Lynne #40 School District	92,000.00
East Newton R-Vi	500,000.00
East Prairie R-2	42,000.00
El Dorado Springs R II	
Eldon R-1	0.00
Elsberry RII	0.00
Eminence R-1	
Ethel Hedgeman Lyle Academy	150,000.00
Everton R-III School District	72,000.00
Excelsior Springs School District	10,000.00
Fair Grove R-X	200,000.00
Fair Play R-II District	
Fairfax R-3 School District	8,000.00
Fairview R-XI School	500,000.00
Farmington R-7	75,000.00
Fayette R-III	60,000.00
Ferguson-Florissant	0.00
Festus R-VI	450,000.00
Fordland R-III	
Forsyth R-III	0.00
Fort Osage R-1 School District	150,000.00
Fort Zumwalt School District	100,000.00
Fox C-6	300,000.00
Francis Howell School District	2,000,000.00
Franklin County R-II School	100,000.00
Fredericktown R-I	
Fulton 58	350,218.00

District Name:	If yes, what is the estimated cost to upgrade? (Please enter numbers only - not dollar signs or commas)
	Estimated cost
Gainesville R-V	20,000.00
Gallatin R-V Schools	
Gasconade County R-1	5,000.00
Gasconade County R-2 Schools	0.00
Genesis	
Gideon 37 School District	
GILLIAM C-4	30,000.00
Gilman City RIV School	
Glasgow School District	10,000.00
Glenwood R-8	75,000.00
Golden City R-III	5,000.00
Gordon Parks Elementary	50,000.00
Gorin R-III	
Grain Valley R-5	25,000.00
Grandview C-4	250,000.00
Grandview R-II	60,000.00
Green City R-1	0.00
Green Forest R-II	50,000.00
Green Ridge R-VIII School	
Greenfield R-IV Schools	0.00
Greenville R-II	80,000.00
Grundy R-V	30,000.00
Hale R-1	
Halfway R-3	30,000.00
Hallsville R-IV School District	350,000.00
Hamilton R-2	
Hancock Place School District	
Hannibal #60 Schools	700,000.00
Hardeman R-X	
Hardin- Central C-2	30,000.00
Harrisburg R-VIII	
Harrisonville R-IX	
Hartville R-II	
Hayti R-II	60,000.00
Hazelwood School District	

District Name:	If yes, what is the estimated cost to upgrade? (Please enter numbers only - not dollar signs or commas)
	Estimated cost
Henry Couty R-I	
Hermitage R-IV	
Hickman Mills C-1	500,000.00
hickory County R-1	
Higbee R-VIII School District	70,000.00
Hillsboro R-3	666,200.00
Hogan Preparatory Academy	
Holcomb R-III	5,000.00
Holden R-III	135,000.00
Holliday C-2 School	23,400.00
Hollister R-V	
Hope Academy Charter School	
Houston R-I Schools	200,000.00
Howell Valley R-1	200,000.00
Hurley R-I School District	3,000.00
Iberia R-V	
Imagine Academy of Academic Success	
Imagine Academy of Careers	
Imagine Renaissance Academy of	
Independence 30	750,000.00
Jackson R-2	20,000.00
Jamestown C-1 School	
Jasper R-5	
Jefferson C-123	
Jefferson City School District	60,000.00
Jefferson County R-VII	100,000.00
Jennings School Districtt	2,000,000.00
Johnson Co. R-VII	45,000.00
Joplin Schools	125,000.00
Kansas City, Missouri School District	
Kearney R-1 School District	
Kelso C-7 School Disrict	7,000.00
Kennett #39 School District	20,000.00
Keytesville R-III	0.00
King City R-1	4,000.00

District Name:	If yes, what is the estimated cost to upgrade? (Please enter numbers only - not dollar signs or commas)
	Estimated cost
Kingston 42	0.00
Kingston K-14	15,000.00
Kingsville R-1	2,000.00
KIPP Endeavor Academy	
Kirbyville RVI	32,750.00
Kirksville R-III School District	12,000.00
Kirkwood School District R7	
Knob Noster R-VIII	1,500.00
Knox County R-I School District	
La Monte R-IV School	
Laclede County -1	5,000.00
Laclede County C-5 School District	
Ladue	
LAFAYETTE COUNTY C-1	
Lakeland R-III	
Lamar R-1	120,000.00
Laquey R-V School District	150,000.00
Laredo R-VII	5,000.00
Lathrop R-II	
Lawson R-XIV School District	10,000.00
Lebanon R-3 School District	
Lee's Summit	
Leesville R-IX	
Leeton R-X School District	
Leopold R-III	
Lesterville R-IV	
Lewis County C-1	15,000.00
Lexington R-V	5,000.00
Liberal R-II	
Liberty Public Schools	0.00
Licking R-VIII School District	3,500.00
Lift For Life Academy	0.00
Lincoln County R-IV School District	40,000.00
Lindbergh Schools	
Linn County R-I	30,000.00

District Name:	If yes, what is the estimated cost to upgrade? (Please enter numbers only - not dollar signs or commas)
	Estimated cost
Livingston Co. R-III	0.00
Logan-Rogersville R-8 Schools	200,000.00
Lone Jack C-6	125,000.00
Lonedell R-14	50,000.00
Louisiana R-II School District	200,000.00
Luray School District 33	2,000.00
Macks Creek R-V School	0.00
Macon County R-1 School District	
Madison C-3	
Malden R-I School District	
Malta Bend R-V School District	
Manes R-V School	
Mansfield RIV	10,000.00
Maplewood Richmond Heights	250,000.00
Marceline R-V	15,000.00
Maries County R-II	200,000.00
Maries R-1	240,000.00
Marion C. Early R-V	165,000.00
Marion County R-II	
Marionville R-9 Schools	
Mark Twain R-VIII Schools	7,500.00
Marquand-Zion R-VI	10,000.00
Marshall	200,000.00
Marshfield R-1 Schools	400,000.00
Maryville R II	15,000.00
Maysville R-I School District	300,000.00
McDonald County R-1	
Meadow Heights R-II	20,000.00
Meadville R-IV	
Mehlville School District	3,000,000.00
Meramec Valley R-III	400,000.00
Mexico 59	15,000.00
Miami R-1	5,000.00
Miami R-I	5,000.00
Mid-Buchanan R-V	

District Name:	If yes, what is the estimated cost to upgrade? (Please enter numbers only - not dollar signs or commas)
	Estimated cost
Middle Grove C-1	0.00
Milan C-2 School District	100,000.00
Miller County R-III	10,000.00
Mirabile C-I	10,000.00
Missouri City #56	10,000.00
Missouri School for the Blind	
Missouri School for the Deaf	0.00
Moberly	
Monett R-1 School District	
Moniteau County R-I	5,000.00
Moniteau R-V	
Monroe City R-I Schools	
Montgomery County R-II	350,000.00
Montrose R-14	
Morgan County R-1	
Morgan County RII	550,000.00
Mound City R-2	10,000.00
Mountain Grove R-III	
Mountain View-Birch Tree R-III	0.00
Mt. Vernon R-5 School District	50,000.00
Naylor R-II	100,000.00
Neelyville R-IV	
Nell Holcomb R-IV	100,000.00
Neosho R-V	0.00
Nevada R-V	
New Bloomfield R-III	
New Franklin R-1	5,000.00
New Haven #138	20,000.00
New Madrid County R-1	
Newburg R-II	
Newtown-Harris R-III	0.00
Nixa R-II	
Nodaway Holt R-VII	0.00
Norborne R-8 School District	0.00
North Andrew R-VI	0.00

District Name:	If yes, what is the estimated cost to upgrade? (Please enter numbers only - not dollar signs or commas)
	Estimated cost
North Callaway R1	150,000.00
North Daviess R-III	59,000.00
North Harrison R-III	
North Kansas City 74	5,000,000.00
North Mercer R-III	30,000.00
North Nodaway R-6 School District	60,000.00
North Platte	32,000.00
North Shelby	
North St. Francois County R-1	12,000.00
North Wood R-IV School District	
Northeast Nodaway R-V	
Northeast R-IV	0.00
Northwest R-I School District	
Northwestern R-1	
Norwood R-1	5,000.00
Oak Grove R-VI School District	1,000,000.00
Oak Hill R-1	119,000.00
Oak Ridge R-6	10,000.00
Odessa R-VII	260,000.00
Oran R-III	204,800.00
Orchard Farm R-V School District	150,000.00
Orearville R-4	
Oregon-Howell	10,000.00
Orrick R-XI School District	
Osage Co. R-III	25,000.00
Osage County R-1	0.00
Osage County R-II Schools	275,000.00
Osborn R-O+A368	75,000.00
Osceola	20,000.00
Otterville R-VI	60,000.00
Ozark R-VI	250,000.00
Palmyra R1 School District	
Paris R-II	0.00
Park Hill School District	
Parkway School District	4,000,000.00

District Name:	If yes, what is the estimated cost to upgrade? (Please enter numbers only - not dollar signs or commas)
	Estimated cost
Pathway	30,000.00
Pattonsburg R-2	55,000.00
Pattonville R-3	200,000.00
Pemiscot County R-3	50,000.00
Pemiscot County Special School District	
Perry County School District #32	15,000.00
Pettis Co R-XII	25,000.00
Pettis County R-V	
Phelps County R-3 School	50,000.00
Pierce City R-VI	20,000.00
Pike County R-III	50,000.00
Pilot Grove C-4 School	80,000.00
Plato R-V	500,000.00
Platte County	
Pleasant Hill R-III	300,000.00
Pleasant Hope R6	100,000.00
Polo R-VII	
Poplar Bluff R-1	126,000.00
Portageville School District	
Potosi R-3	1,462,500.00
Prairie Home R-V School	45,000.00
Princeton R-V	30,000.00
Purdy R II	12,000.00
Putnam Co R1 Schools	0.00
Puxico R-8 Schools	0.00
Ralls County R-II	12,000.00
Raymondville R-VII	20,000.00
Raymore-Peculiar	250,000.00
Raytown C-2 School District	190,000.00
Reeds Spring R-IV	225,000.00
Renick R-V School	120,000.00
Republic R-3 Schools	0.00
Revere C-3	
Rich Hill R-IV	0.00
Richards R-V School	150,000.00

District Name:	If yes, what is the estimated cost to upgrade? (Please enter numbers only - not dollar signs or commas)
	Estimated cost
Richland R-1	
Richland R-IV	0.00
Richmond R-XVI School District	20,000.00
Richwoods R-VII School	50,000.00
Ridgeway R-V School	
Ripley County R-III School	40,000.00
Risco RII	35,000.00
Ritenour School District	
Riverview Gardens School District	
Rock Port R-II	12,500.00
Rockwood R-VI	
Rolla 31	8,000.00
Saint Joseph School District	
Salem R80 School District	12,000.00
Salisbury R-IV	50,000.00
Santa Fe R-X	75,000.00
Sarcoxie R-II	0.00
Savannah R-III	250,000.00
School District of Clayton	
School of the Osage	250,000.00
Schuyler R-1 School	
Scotland Co. R-I Schools	350,000.00
Scott City R-1	5,000.00
Scott County Central	
Scott County R-IV	100,000.00
Scula Vita Nuova Charter	0.00
Sedalia School District #200	300,000.00
Senath-Hornersville	22,500.00
Seneca R-7	
Seymour	
Shawnee R-III	7,000.00
Shelby Co RIV	0.00
Sheldon R-VIII Schools	
Shell Knob School District #1	80,000.00
Sherwood Cass R-8	

District Name:	If yes, what is the estimated cost to upgrade? (Please enter numbers only - not dollar signs or commas)
	Estimated cost
Sikeston R-6	
Silex RI	50,000.00
Skyline R-II	15,000.00
Slater Public Schools	
Smithton R-VI	
Smithville R-II	430,000.00
South Harrison R-II	1,000.00
South Holt R-I	0.00
South Iron R-1	
South Nodaway	300,000.00
South Pemiscot R-V School District	10,000.00
Southern Boone Co. R-1	150,000.00
Southland C-9	2,000.00
Southwest R-V	0.00
Sparta R-III	
Special School District of St. Louis County	
Spickard R-II	
Spokane R-VII School District	70,000.00
Spring Bluff R-XV	
Springfield R-12 Public Schools	10,000.00
St. Charles R-VI School District	30,000.00
St. Clair R-XIII	100,000.00
St. Elizabeth R-IV	
St. James R-1	3,000.00
St. Louis Charter School	15,000.00
St. Louis Public Schools	
Stanberry R-II	0.00
Ste. Genevieve R-II School District	0.00
Steelville R-3	2,500.00
Stewartsville C-2	
Stockton R-1	
Stoutland R-II Schools	10,000.00
Strafford R-VI	8,000.00
Strain-Japan R-16	15,000.00
Strasburg C-3	

District Name:	If yes, what is the estimated cost to upgrade? (Please enter numbers only - not dollar signs or commas)
	Estimated cost
Sturgeon R-V	0.00
Success R - 6 School	5,000.00
Sullivan School District	0.00
Summersville R-II	
Sunrise R-IX	50,000.00
Sweet Springs R-VII	
Taneyville R-II	95,000.00
Tarkio R-I	8,000.00
Thayer R-2	150,000.00
Tina-Avalon R-II	
Tolbert District	12.00
Trenton R-IX	150,000.00
Tri-County R-VII	2,000.00
Troy R-III School District	0.00
Twin Rivers R-10	30,000.00
Union R-XI School District	20,000.00
Union Star R-II School	2,000.00
University Academy	75,000.00
University City	200,000.00
Urban Community Leadership Academy	15,000.00
Valley Park School District	30,000.00
VALLEY R-6	20,000.00
Van Buren R-1	25,000.00
Van-Far R-1	4,500.00
Verona R-VII Schools	0.00
WALNUT GROVE RV	1,500.00
Warren County R-III School District	2,400,000.00
Warrensburg R-VI	
Warsaw R-IX	
Washington	5,000.00
Waynesville R-VI	75,000.00
WEAUBLEAU R-III	
Webb City R-7 School District	
Webster Groves	20,000.00
Wellington-Napoleon	

District Name:	If yes, what is the estimated cost to upgrade? (Please enter numbers only - not dollar signs or commas)
	Estimated cost
Wellston	
Wellsville-Middletown R-I	
Wentzville R-IV School District	200,000.00
West Nodaway R-1 School District	
West Platte Co. R-II	
West St. Francois County R-IV	57,600.00
Westran R-1 School District	
Westview C-6 School District	50,000.00
Wheatland R-II	
Wheaton R-III	0.00
Willard	
Willow Springs R-IV	
Windsor C-1	
Winona R-III	120,000.00
Winston R-VI School District	35,000.00
Woodland R-IV	
Worth County R-III	8,000.00
Wright City R-II	400,000.00
Zalma R-V Schools	30,000.00
TOTALS	**54,491,380.00**