

## APPENDIX TABLE OF CONTENTS

The Table of Contents below organizes the Appendices that support Kentucky’s Race to the Top Application. Each Appendix is referenced in the narrative text and is provided as a separate file labeled as described below with Kentucky’s application.

<b>Attachment Title and Number</b>		<b>Relevant Selection Criterion</b>
A	Appendix A: February Joint Meeting of Key State Agencies Minutes	(A)(1) Additional
B	Appendix B: Prichard Committee Op-Ed	(A)(1) Additional
C	Appendix C: Kentucky Learning Framework	(A)(1) Additional
D	Appendix D: Detailed Table with Participating LEAs	(A)(1)(ii) and (A)(1)(iii) Evidence
E	Appendix E: Kentucky Race to the Top MOU	(A)(1)(ii) Evidence
F	Appendix F: Student Achievement Target Detail	(A)(1)(iii) Evidence
G	Appendix G: Kentucky Race to the Top Budget Proposal	(A)(2)(i)(d) Evidence
H	Appendix H: Commissioner statement on HB 176 Passage	(A)(1) Additional
I	Appendix I: Letters of Support	(A)(2)(ii) Evidence
J	Appendix J: The Next Era in Kentucky Educational Progress	(A)(3) Additional
K	Appendix K: NAEP Exclusion Rate Information	(A)(3) Evidence
L	Appendix L: KY Cohort Graduation Rate Final	(A)(3) Additional
M	Appendix M: KDE Waiver Letter to USED for Graduation Rate	(A)(3) Additional
N	Appendix N: USED Response to Kentucky Waiver Request for Graduation Rate	(A)(3) Additional
O	Appendix O: Student achievement historical detail	(A)(3)(ii) Evidence
P	Appendix P: Common Core Standards Consortium MOA	(B)(1)(i) Evidence

<b>Attachment Title and Number</b>		<b>Relevant Selection Criterion</b>
Q	Appendix Q: NGA News Release with List of the Participating States and Territories in the Common Core State Standards Initiative	(B)(1)(i) Evidence
R	Appendix R: Common Core Standards for English Language Arts	(B)(1)(i) Evidence
S	Appendix S: Common Core State Standards for Mathematics	(B)(1)(i) Evidence
T	Appendix T: PARCC MOU	(B)(2) Evidence
U	Appendix U: PARCC Participating States	(B)(2) Evidence
V	Appendix V: SMARTER BALANCE MOU	(B)(2) Evidence
W	Appendix W: SMARTER BALANCE Participating States	(B)(2) Evidence
X	Appendix X: NCEE Press Release	(B)(2) Evidence
Y	Appendix Y: NCEE Participating States	(B)(2) Evidence
Z	Appendix Z: Visual of Network System	(B)(3) Evidence
AA	Appendix AA: SBDM and Charter School Autonomy	(F)(2) Evidence
BB	Appendix BB: 21 <sup>st</sup> Century Skills Staff Note	(F)(3) Evidence
CC	Appendix CC: Senate Bill 180	(D)(1) Evidence
DD	Appendix DD: Senate Bill 1	(D)(2) Evidence
EE	Appendix EE: RAND Report	(D)(4) Evidence
FF	Appendix FF: KDE Organization Design	(A)(2) Evidence
GG	Appendix GG: SB1 Standards Roll-out and Professional Development Plan Final	(B)(3) Additional
HH	Appendix HH: SB1 deployment work group	(B)(3) Additional
II	Appendix II: Math & English-Language Arts Common Core Standards Work Teams	(B)(3) Additional
JJ	Appendix JJ: Recommendations for Changes to Calendar and Professional Development Statutes	(B)(3) Additional

<b>Attachment Title and Number</b>		<b>Relevant Selection Criterion</b>
KK	Appendix KK: AdvanceKentucky & Race to the Top	(B)(3) Additional
LL	Appendix LL: Project Lead The Way & Race to the Top	(B)(3) Additional
MM	Appendix MM: SREB Research Report on Project Lead The Way	(B)(3) Additional
NN	Appendix NN: Documentation of America COMPETES Act Elements in Kentucky's Statewide Longitudinal Data System Overview	(C)(1) Evidence
OO	Appendix OO: Comparison to DQC elements	(C)(1) Evidence
PP	Appendix PP: P-20 Data Collaborative MOA	(C)(1) Evidence
QQ	Appendix QQ: P-20 Data Collaborative	(C)(1) Evidence
RR	Appendix RR: ILP for Parents overview	(C)(1) Evidence
SS	Appendix SS: Data Quality Issue resolution sample	(C)(1) Evidence
TT	Appendix TT: KSLDS Report ESS Progress Towards Proficiency sample	(C)(1) Evidence
UU	Appendix UU: High School Feedback report sample	(C)(1) Evidence
VV	Appendix VV: KDE Web High School Transcript directive	(C)(1) Evidence
WW	Appendix WW: Roles and Responsibilities of Data Stewards and Data Managers	(C)(2) Additional
XX	Appendix XX: Kentucky's ARRA SLDS Grant Proposal	(C)(2) Additional
YY	Appendix YY: Kentucky Alternative Certification Legislation	(D)(1)(i) Evidence
ZZ	Appendix ZZ: Alternative Certification Statute KRS 161.028	(D)(1)(i) Evidence
AAA	Appendix AAA: Kentucky Alternative Route Statistics for Teachers and Principals	(D)(1)(ii) Evidence
BBB	Appendix BBB: Kentucky Teacher Standards	(D)(2) Additional
CCC	Appendix CCC: Kentucky Teacher Quality, Diversity and Equity plan	(D)(3) Additional

<b>Attachment Title and Number</b>		<b>Relevant Selection Criterion</b>
DDD	Appendix DDD: Education Trust Funding Gaps 2006 Report	(D)(3) Additional
EEE	Appendix EEE: Poverty and Minority Level Determination Procedures	(D)(3)(i) Evidence
FFF	Appendix FFF: Kentucky Report on Using Teacher Compensation to Support Differentiated Roles and Responsibilities	(D)(3) Additional
GGG	Appendix GGG: Teach For America and Race to the Top Proposal	(D)(3) Additional
HHH	Appendix HHH: Press Release on Improving Educator Quality Grant	(D)(3) Additional
III	Appendix III: KEPP Report Card History and Sample	(D)(4) Additional
JJJ	Appendix JJJ: Effective Educator Preparation Index and Effective Principal Preparation Index Overview	(D)(4) Additional
KKK	Appendix KKK: Professional Learning in Regional Networks	(D)(5) Additional
LLL	Appendix LLL: High Quality Teaching and Learning Overview Guide	(D)(5) Additional
MMM	Appendix MMM: KDE Staff Note Regarding Professional Development Statutory Revisions	(D)(5) Additional
NNN	Appendix NNN: Kirkpatrick four-level evaluation model	(D)(5) Additional
OOO	Appendix OOO: Legislation KRS 158.780	(E)(1) Evidence
PPP	Appendix PPP: Legislation KRS 158.785	(E)(1) Evidence
QQQ	Appendix QQQ: Legislation KRS 160.346	(E)(1) Evidence
RRR	Appendix RRR: House Bill 176	(E)(1) Evidence
SSS	Appendix SSS: 703 KAR 5 180E Intervention system for persistently low-achieving schools	(E)(1) Evidence
TTT	Appendix TTT: ASSIST Team Explanation	(E)(2) Additional
UUU	Appendix UUU: The VPAT Story	(E)(2) Additional

<b>Attachment Title and Number</b>		<b>Relevant Selection Criterion</b>
VVV	Appendix VVV: Highly Skilled Educators Program	(E)(2) Additional
WWW	Appendix WWW: The Missing Piece of the Proficiency Puzzle Report	(E)(2) Additional
XXX	Appendix XXX: Audit Recovery Process and Flowchart	(E)(2) Additional
YYY	Appendix YYY: School Intervention Options for Turnarounds	(E)(2) Additional
ZZZ	Appendix ZZZ: HSTW & MMGW program overview	(E)(2) Additional
AAAA	Appendix AAAA: Save the Children and Race to the Top Literacy Memo	(E)(2) Additional
BBBB	Appendix BBBB: Gateway to College Description	(E)(2) Additional
CCCC	Appendix CCCC: School Administrative Manager Program History and Detail	(E)(2) Additional
DDDD	Appendix DDDD: Comparison of SEEK in Three Districts	(F)(1)(ii) Evidence
EEEE	Appendix EEEE: Education Watch State Reports – Kentucky	(F)(1)(ii) Evidence
FFFF	Appendix FFFF: SBDM legislation (KRS 160.345)	(F)(2)(v) Evidence
GGGG	Appendix GGGG: Kentucky's STEM Imperative	STEM Additional
HHHH	Appendix HHHH: Board of Education 2010 Legislative Agenda	Early Learning Additional
IIII	Appendix IIII: KIDS NOW Initiatives	Early Learning Additional
JJJJ	Appendix JJJJ: Early Childhood Task Force Executive Order	Early Learning Additional
KKKK	Appendix KKKK: Approved Contract TWC-KDE	(D)(2) Evidence
LLLL	Appendix LLLL – Turn Around Training Modules	(E)(2) Evidence
MMMM	Appendix MMMM – New Teacher Center Letter	(D)(2) Evidence
NNNN	Appendix NNNN – CCSSO NxGL Press Release	(A)(2) Evidence

<b>Attachment Title and Number</b>		<b>Relevant Selection Criterion</b>
OOOO	Appendix OOOO – Leadership Communities Overview	(A)(2) Evidence
PPPP	Appendix PPPP – HB 1 (2010 Special Session)	(F)(2) Evidence

**KENTUCKY BOARD OF EDUCATION,  
COUNCIL ON POSTSECONDARY EDUCATION AND  
EDUCATION PROFESSIONAL STANDARDS BOARD  
FEBRUARY 10, 2010  
JOINT MEETING**

**KENTUCKY COMMUNITY AND TECHNICAL COLLEGE  
SYSTEM OFFICES  
300 NORTH MAIN STREET  
VERSAILLES, KENTUCKY**

***SUMMARY MINUTES***

**Wednesday, February 10, 2010**

The Kentucky Board of Education (KBE), Council on Postsecondary Education (CPE) and Education Professional Standards Board (EPSB) met on February 10, 2010, for a joint meeting at the Kentucky Community and Technical College System (KCTCS) offices in Versailles, Kentucky and conducted the following business:

***MEETING OPENING AND WELCOME***

KCTCS President Michael McCall welcomed the three boards and the audience to the meeting. He indicated KCTCS was glad to host the historic event and said that education overall is having a positive impact across the state. McCall thanked CPE President Robert King for asking KCTCS to host the meeting and noted he was delighted to have the Governor here to be part of the meeting.

***REMARKS BY GOVERNOR STEVEN L. BESHEAR***

Commissioner Terry Holliday of the Kentucky Department of Education (KDE) stated that he would be serving as master of ceremonies at tonight's meeting and shared that he was extremely honored to be selected as Kentucky's commissioner of education. He commented that in his experience in the state he has been impressed with the work of all of the education partners on Senate Bill 1 and particularly by the collaboration among the three boards, Representative Carl Rollins, Senator Ken Winters and the General Assembly. Holliday then noted that one of his highlights after coming to Kentucky has been getting to know Governor Steve Beshear and experience his commitment to education. He asked the Governor to come forward to make his remarks.

Governor Beshear made the following points:

- Kentucky has experienced several historic moments in an effort to move education forward.

- Tonight's meeting is one of those moments where the three education boards have come together to move Kentucky education forward.
- In 1990, the state's leaders made a promise through education reform that if students worked hard, they would be prepared for success in the world. From these efforts, Kentucky's education system made significant progress; however, it still has farther to go.
- Last summer, I signed an agreement for the state to participate in the development of the common core standards. Today, Kentucky is showing its leadership by being the first to adopt these standards with the ultimate goal being that the K-12 system will prepare students for success in higher education and the world.
- The new standards will raise the bar and meet the requirements of Senate Bill 1. They will provide more consistency nationally, are benchmarked with international standards and are clearer and more easily communicated so that all will know what is expected of students.
- What is done today cannot stand alone. We must commit funds, focus and energy to move schools ahead.
- Commissioner Holliday and I have formed the Transforming Education in Kentucky Task Force and my budget submission was designed to protect education.
- Congratulations to all those involved in this meeting tonight to ensure our kids have a high quality education.

***VIDEO MESSAGE FROM U.S. SECRETARY OF EDUCATION ARNE DUNCAN***

Commissioner Holliday reported that due to adverse weather conditions and the federal government not working, the video was not able to reach the state for use tonight. He noted that it is ready and as soon as it is received, it will be posted on the Web sites of the three agencies for viewing. Holliday then, on behalf of Secretary Duncan, offered congratulations to the three boards for their support of the new standards.

***CALL TO ORDER AND ROLL CALL***

Chair Joe Brothers called the KBE to order and asked Mary Ann Miller to call the roll. Present for the meeting were C.B. Akins, Kaye Baird, Joe Brothers, Dorie Combs, Jeanne Ferguson, Judy Gibbons, Billy Harper, Doug Hubbard, Austin Moss, Brigitte Ramsey and Robert King. Absent was David Karem.

Chair Paul Patton then called the CPE to order and asked Phyllis Bailey to call the roll. Present for the meeting were Ellen Call, Chris Crumrine, Glenn Denton, Dan Flanagan, Joe Graviss, Terry Holliday, Phyllis Maclin, Nancy J. McKenney, Pam Miller, Donna Moore, Lisa F. Osborne, Paul E. Patton, Jim Skaggs, Joe Weis and Joe Wise. Absent was Marcia Milby Ridings.

Next, Chair Lorraine Williams called the EPSB to order and asked Ashley Abshire to call the roll. Present for the meeting were Lonnie Anderson, Frank Cheatham, Cathy Gunn, Mary

Hammons, Terry Holliday, Robert King, Greg Ross, Becky Sagan, Sandy Sinclair-Curry, Zenaida Smith, Bobbie Stoess, Tom Stull, Mark Wasicsko, Cassandra Webb and Lorraine Williams. Absent were Lynn May and Cynthia York.

### ***REMARKS BY EDUCATION COMMITTEE CHAIRS***

Commissioner Terry Holliday moved on to the next agenda item and stated that this meeting would not have occurred without the passage of Senate Bill 1 (SB 1). He explained that SB 1 directs collaboration among the three boards and their respective agencies. Holliday said that two of the legislators that were key to the passage of SB 1 and House Bill 176 (within eight days), Representative Carl Rollins and Senator Ken Winters were present and he asked them both to say a few words about the standards and tonight's meeting.

Representative Rollins commented that the meeting has brought together a distinguished group of policy makers and indicated he was honored to be here as part of the historic meeting. Rollins emphasized that the adoption of national standards is a big step forward for Kentucky's education system.

Senator Winters then spoke and congratulated the three boards for coming together because he believes the team effort on this work will impact the state forever. He felt tonight was historic and that adoption of the new standards is a major step educationally as well as an integral part of SB 1. Winters said that in addition to new standards, SB 1 will require implementation of a new assessment and accountability system that will evaluate individual students and not just schools. Although he stated that the adoption of the new English/language arts and mathematics standards is a matter about which we rejoice, Winters emphasized that assistance will be needed in adopting new standards in the other curricular areas. He noted that he would be talking with the National Governors Association and the Council of Chief State School Officers about this matter due to the necessity of being able to compare Kentucky student performance with students from across the nation. Winters concluded by expressing appreciation for being part of the SB 1 Committee and for seeing all three boards sitting together to make this event happen.

### ***JOINT PRESENTATION REGARDING THE NEW KENTUCKY CORE ACADEMIC STANDARDS***

At this point, President Robert King, Commissioner Terry Holliday and Executive Director Phillip Rogers came forward to the presenters' table to address the three boards about the new standards and present the resolution that the boards were being asked to adopt.

President Robert King of the CPE spoke first and made the following points:

- He joined Michael McCall in welcoming everyone to the meeting. Recognition was given to several college and university presidents and higher education officials, Bob Sexton of the Prichard Committee, Dave Adkisson of the Kentucky Chamber of Commerce, legislators, Acting Secretary of Education Joe Meyer and Mary Ann

Blankenship of the Kentucky Education Association as being present and all were thanked for their support of the work that is being recognized tonight.

- It was emphasized that the heads of the three agencies have developed an extraordinary relationship and have been given the opportunity to truly collaborate in implementing the requirements of SB 1. Staffs of the three agencies have joined together and put turf issues aside.
- Sue Cain, John DeAtley and Aaron Thompson from the CPE and higher education faculty worked with teachers and KDE staff to assure that the standards meet the needs that exist in Kentucky.
- The standards are sometimes characterized as national standards but they are really ones developed by states and for states. In the latest communication between the national teams and our state teams, all of Kentucky's recommendations were reflected in the draft document. Thus, what the boards are being asked to support are Kentucky-specific standards.
- Professional development will be central to the success of the standards work and thus teachers must be provided with the needed support to bring the standards to life.
- Higher education desires to have more students enrolled and wants them all to succeed.

Dr. Phillip Rogers of the EPSB then shared the following comments:

- Members of the ESPB were thanked for their participation in the meeting as well as those staff members that were present.
- It was pointed out that the majority of the EPSB members are practicing teachers or administrators, representatives of groups that are all part of the standards work.
- Accolades were given to the other two agency heads for the working relationship that has developed and Rogers' role in their group was characterized as being more of a dreamer because SB 1 caused him to visualize what it would take to reach the goal of every student ready for college or work.
- The collaboration across the agencies and new ideas has led to believing that Kentucky has one education system with the resolve that business will be conducted with this principle in mind.
- Far too many students do not succeed in college, high school or work. Adopting and supporting the standards is the easy part. Incredible changes in teacher preparation programs, high-quality professional development, and a focus on the working conditions of teachers are all critical steps that will be necessary for SB 1 to work.
- Thank you for the work to date and for the work that will occur in the days to come.

The final speaker of the group was Commissioner Terry Holliday of the KDE. He stated the following:

- Staff members from the KDE were thanked for their intensive work on the new standards.
- It was noted that the winds of change are blowing across the country and that these winds must be harnessed to improve education for our children.

- Those who are interested in how these changes will be accomplished were asked to read Kentucky's Race to the Top application. As part of this work, the standards must be translated into understandable language, which will require professional development.
- The belief that this work will make a difference in the children of our state over the long term was put forth and the challenge for everyone to get to work to implement the standards was made.

### ***REMARKS FROM REVIEWERS REGARDING THE NEW KENTUCKY CORE ACADEMIC STANDARDS***

Next, Commissioner Holliday asked two people who had served on the review teams for the standards, Dr. Brenda Overturf and Charlie Newquist, to come forward and address the boards.

Dr. Brenda Overturf, professor in the Education Department – Teaching and Learning at the University of Louisville, provided her thoughts with regard to the review of the standards by Kentucky teachers and higher education officials as follows:

- She was part of a group that was invited to review the college readiness standards in September and also part of a similar group that last month reviewed the K-12 English/language arts standards.
- The task of the group was to review the standards and ensure these were appropriate for Kentucky.
- The new standards will provide an understanding across the states of what students need to know and be able to do and will allow curriculum mapping.
- Although there were revisions made, they were on the right track and many of the group's suggestions appear in the current draft.
- The belief was put forth that the common core standards will provide standards that are deeper, clearer, and more focused.

The second speaker was Charlie Newquist, mathematics teacher from East Jessamine Middle School in Nicholasville. He shared these thoughts:

- It was an honor to be part of the standards review process and he served on the mathematics group from the beginning of the process.
- Every time new information was received from the national team, the state group could see that its concerns were being addressed.
- The standards are rigorous but reachable.
- It is exciting as a teacher to know what is expected and appreciation was expressed for being a part of the work.

### ***PASSAGE OF JOINT RESOLUTION BY KBE, CPE, AND EPSB BOARDS***

Commissioner Holliday referred the three boards' attention to the joint resolution found in the meeting's Agenda Book and read it aloud as follows:

***“RESOLUTION SUPPORTING THE ADOPTION AND  
INTEGRATION OF THE KENTUCKY CORE ACADEMIC  
STANDARDS ACROSS KENTUCKY’S EDUCATION SYSTEM  
BY  
THE KENTUCKY BOARD OF EDUCATION,  
COUNCIL ON POSTSECONDARY EDUCATION AND  
EDUCATION PROFESSIONAL STANDARDS BOARD  
COMMONWEALTH OF KENTUCKY***

***Whereas,*** The Kentucky Board of Education, Council on Postsecondary Education and Education Professional Standards Board are committed to the continual improvement of the educational system for all students; and

***Whereas,*** Senate Bill 1 was passed in the 2009 regular session of the Kentucky General Assembly and requires collaboration among the boards and staffs of the Kentucky Department of Education, Council on Postsecondary Education and Education Professional Standards Board to revise Kentucky’s academic content standards, train local district teachers and administrators on their implementation and train faculty and staff in all of the teacher preparation programs in the application of the revised academic standards; and

***Whereas,*** The Senate Bill 1 Steering Committee has supported the three agencies’ collaboration with the Council of Chief State School Officers and National Governors Association Center for Best Practices in the Common Core Standards project; and

***Whereas,*** Kentucky’s Governor and Chief State School Officer signed a Memorandum of Agreement with the aforementioned organizations to participate in the development and adoption process of national Common Core Standards in English/language arts and mathematics for grades K-12; and

***Whereas,*** The drafting process for the standards has included broad input from Kentucky teachers, administrators, higher education officials, education partners, the public, staffs of the three participating agencies, a national validation committee and national organizations that has resulted in the current standards document; and

***Whereas,*** As required by Senate Bill 1, the Common Core Standards in English/language arts and mathematics focus on critical knowledge, skills and capacities needed for success in the global economy; reflect fewer, but more in-depth standards to facilitate learning; communicate expectations more clearly and concisely to teachers, parents, students and citizens; consider international benchmarks; and ensure that the standards are aligned from elementary to high school to postsecondary education so that students can be successful at each educational level;

***NOW, THEREFORE,*** be it resolved by the Kentucky Board of Education that the current draft of the Common Core Standards, to be known as the Kentucky Core Academic Standards for English/language arts and mathematics, was adopted by the board on February 10, 2010, and be it further resolved by the Kentucky Board of Education, Council on Postsecondary Education and Education Professional Standards Board that their respective agencies shall integrate the final standards into their work and processes to ensure that all Kentucky students experience a successful and productive future.

**Done in the city of Versailles, Kentucky, this tenth day of February, in the year Two Thousand Ten."**

Commissioner Holliday shared that the staffs of the three respective agencies are recommending approval of the joint resolution.

KBE Chair Joe Brothers then made the following comments:

- Earlier today, the Kentucky Board of Education approved the preliminary version of the Core Academic Standards to be incorporated by reference into state regulation.
- We are engaging in an historic event this evening – one that will have unprecedented and positive effects for years to come.
- The adoption of the preliminary Core Academic Standards meets a major mandate of Senate Bill 1 and sets us on the road to a new era for public education.
- Thanks to all of you for your collaborative efforts on this project. I'm proud to be a part of this work, and I know the other members of the Kentucky Board of Education are excited and ready to move forward.
- A motion and second from Kentucky Board of Education members are needed to adopt the joint resolution.

Doug Hubbard moved to adopt the joint resolution and Judy Gibbons seconded the motion. In a roll call vote, it carried unanimously.

CPE Chair Paul Patton then commented as follows:

- This is an historic day and what we are discussing impacts the economic future of Kentucky.
- At one time, Kentucky was a leader nationally in many fields but lost its way and went to the bottom in most rankings. Fortunately, 20 years ago education reform was implemented and the state committed to being a leader. It takes a long time for change to become evident but if one looks back, the difference is visible.
- This action relative to the new standards represents another milestone in the state's educational progress.
- It is the responsibility of the Governor and General Assembly to give us direction and the authority to do the job, but it is up to us to get the job done.
- The classroom teacher will be the level at which the important work must occur.
- We at CPE are proud to be part of this work and a motion and second are needed to adopt the joint resolution.

Dan Flanagan moved to adopt the joint resolution and Glenn Denton seconded the motion. In a roll call vote, the motion carried unanimously.

Next, EPSB Chair Lorraine Williams stated the following:

- Being from New York and Houston, in my experience Kentucky was known for leading change.
- Today, another bridge was crossed and Kentucky is bringing together a narrowed focus and deepened level of learning to reduce dropouts. It is the beginning of a new era.
- As state board members, we must remember that our work is to support the work of our respective agencies and that we have a common agenda.
- A motion and second to adopt the joint resolution are needed from the EPSB.

Zenaida Smith moved to adopt the joint resolution and Lonnie Anderson seconded the motion. In a roll call vote, the motion passed unanimously.

### ***ADJOURNMENT***

Commissioner Holliday thanked everyone for attending and announced that a reception would follow in the lobby. He then asked each board to officially adjourn.

For the Kentucky Board of Education, Judy Gibbons moved to adjourn and C.B. Akins seconded the motion. The motion carried.

For the CPE, Phyllis Maclin moved to adjourn and Joe Weis seconded the motion. The motion carried.

Then, Cathy Gunn of the EPSB moved to adjourn and Zenaida Smith seconded the motion. The motion carried.

The meeting of all three boards was officially adjourned.

Key developments show promise for improving Kentucky schools

O@CTB@G RTM  
Rdosdl adq17+1//8  
Ax R`I Bnqads

@ v d adf lm` mdv rbgnnkxd` q+ls lr sh d enqæprg dwbsdl dms` ant sJ dms bj x dct b` smm  
hhit rsgd o` rselv l nmsgr+j dx cdudknol dms` g` ud onr lsmrdc J dms bj x enql nq d` otc  
h oqndul dms`sg` mv dQd rddm` s` mx sh d r lmbd sgd d` dx 088/ r- GdqdQ` pt lbj rt l l ` qx ne  
v g` sQ g` oodrdc` mc v gx lsl ` sdcq-

Elq s+J dms bj x lr cdudknolmf mdv ` b` cdl lbr s` mc` qpr sg` sv lkkad rgnqdt+bld` qdq` mc adsdq  
` kf mdc v lsg bnkdf d` qd` chlrdrr ` mc f kna` kbnl odssmm` Rdm sd Alk0+o` rrdc sgr rodmf +bnl l lsr  
t r sn sg` sl ` inqqlulr lmm` mc sn l ` sglmf sdr s` sg` sv lkkrs` qslm1/ 01-

Rdbnrc+mi smm kcdudknol dms` v lkk rsglrf sgdmt qRA 0 v nq - Enqsr, r lws` sdr g` ud bnl l lsd  
unk ms` qk sn cdudkno Bnl l nmBnq r s` mc` qpr lml ` sgd l ` sbr ` mc k nf t` f d` qv lsg J dms bj x  
onhrdc sn ad nnd nesgd udq` sgr sn ` ook` sgnrd dwodbs` smm lmmnt qsd` bglmf +nt qsd` smf ` mc nt q  
` bbnr ms` alks` oqbdrr - J dms bj x v lkk` kn adrdes` enl sgd ælcqd` kCdo` qd` dms` neDct b` smmQ  
bnl l lsd dms`ne#24/ l lkk msn cdudkno qat r sdr smf a` rdc nmsgd Bnl l nmBnq ` oq` bg-

Sglq+r s` sd kd` cdq glo lr mrv t nrdc nmdct b` smm lmm` v` x v d g` ud q` qlk rddm` Kd` cdq lmaneg  
o` qdr ` mc ansg gnt r dr nesgd kdf lr k st` qd a` bj dc RA 0+` mc sgd` mc Fnu- Rsdud Adrgd` qhmsdmc  
sn rdd lsr t bddc- Sdqx Gnlk` x+nt qndv bnl l lrr lmmrdqnedct b` smm+lr neen ` f qd` srs` qst` r lr  
Ana J lmf +sgd mdv oqdr lcdms nesgd Bnt nblknm Onr s` dbnrc` qx Dct b` smm` Snf dsqdq  
Bnl l lrr lmmrdq Gnlk` x` mc Oqdr lcdms J lmf g` ud ` kp` cx k t nbgdc l ` inqbnk` anq` smm+ lmbk` chlrf  
` knrf lsr chlmi kr st` cdms` s` r xr sdl ` sn sq` bj r st` cdms` Oqf qdr` enl oq` j sn bnkdf d` mc adx nrc-

Ent qg+v d g` ud f qv lmf bk` dx ` ant s` bdnsg` ke bs9r s` mc` qpr +sdr s` +c` s` r xr sdl r ` mc r s` sd  
onksto` kbnl l lsd dms` v lkk nrx` xlrdc` glf` gdq` bgltdul dms` lsgdx` qd` h` okl dms` dc v dklm  
bk` rr qnl r- @sgr rodmf Q` Oqbg` q` Bnl l lsd l ddsmf +RqL lbg` dkA` qant qrc dms` ddc` sd` bglmf  
pt` lks` ` r sgd drr dms` h` ke` bsnqlmsgd` rt` bddr` nesno, oq` qd` lmf rbgnnk r xr sdl r ` qnt` mc` sgd v nq-  
lmg lr v nqpr +Q` sgd nrx` v` x sn h` oqnd nt` sbl` dr` lr` sn h` oqnd lmr` sq` bsmm` Q

A` qant q` o` qndqneL bJ lmr dx %Bnl o` mx ` mc` enq` dqne` h` klm` sgd` cl` lmr` sq` smmneAd` srg  
Oq` d L lmr` sq` Snmx AK lq` l ` cd` bnl` odklmf` b` rd` enqent` ql` ` lmr` sq` sd` ldr` sg` sv` nq` sn` at` h`  
bnmr` lr` sdr` s` d` bsdud` sd` bglmf` enq` lkr` st` cdms` 9

- Qdbq` lsmf ` mc` sq` lmmf` r` sgnrf` b` mc` lrc` sdr` sn` dms` dsgd` dct` b` smm` oq` ærr` lmm`
- Rsglrf` sgd` lmf` bt` qplmsd` bglmf` sgnrt` f` g` bnk` anq` stud` oq` ærr` lmm` kcdudknol` dms` sg` s`  
bg` nf` dr` bk` rr` qnl` oq` bsd-
- Tr lmf` c` s` enl` sdr s` ` mc` rbgnnk lmr` odbs` nmr` xr sdl` r` sn` l` d` rt` qd` oqf` qdr` ` mc` sn  
lms` dqund` v` gdm` oqf` qdr` lr` sn` r` kv-
- Cdudknolmf` rbgnnkld` cdq` glo` ` ald` sn` enq` d` sgnrd` sgd` d` dkl` dms` N` mdv` sd` bgdq` +rt` oonq`  
enq` bt` qplmsd` bgdq` +` mc` c` s` nmq` rt` lsr` N` lmr` rbgnnk` sg` scdkudq` otc` ` bgltdul` dms`  
f` qv` sg` enq` lkr` st` cdms` -

lmg lmr` rfi` gs` lsr` d` rx` sn` rdd` sg` snt` q088/` qplnd` nead` mlkr` gnc` snmsgd` sd` bglmf` pt` lks` enms` V` d  
nead` qdc` qv` ` qpr` enq` rt` bddr` ` mc` bnmr` dpt` dnr` bdr` enq` e` h` qd` +` mc` v` d` ` rrt` l` dc` nt` qdct` b` enq` v` dcl  
` kp` ` cx` dpt` loode` sn` qronrc` sn` sgnrd` lmbdms` ud` - lhr` qd` lks` +sgdx` mddedc` l` nq` chlps` ` mc` qat` r` s  
rt` oonq` N` it` r` s` ` sgd` sdr` qd` bglmf` enq` l` ` inqodyd` mddc` rt` r` s` lmdc` bn` bglmf` sn` cdkudq` sgd` qadr` s  
odq` qd` ` nbd-

Sd` bglmf` pt` lks` v` nq` bnt` lc` ad` sgd` @` bglkr` Q` gddk` nent` qndv` deenq` ` r` v` dlk` Rdm` sd` Alk0` ctc` b` lk  
enq` ndv` ` sdr` smm` sn` d` bsdud` lmr` sq` bsmm` +cl` pbsmf` sgd` r` s` sd` cdo` qd` dms` sn` dmr` t` qd` sq` lmmf` enq`  
bt` qplmsdct` b` snq` nmh` okl` dms` mf` sgd` mdv` r` s` mc` qpr` ` mc` chlpsmf` sgd` Dct` b` smm` Oq` ærr` lmm` k



## **The Learning Framework – A Vision for Kentucky’s System of Education**

### **The Learning Framework**

The Learning Framework is the foundation for the state’s system for public education. This framework is a learner-centric, 21<sup>st</sup> Century vision. At the center are the students, with clear knowledge of what they will need to be ready for college and career. Supporting those students are their teachers, effective and able to provide high-quality learning opportunities to all students. Those teachers are in turn supported by their schools, engaged communities and school leaders, who provide guidance to continually improve the quality of learning occurring in the classroom. Schools are nested within districts, providing supports and connections to best practices. Finally, the state sets the context for all, holding a high bar for success and enabling each district, school, teacher, and student to succeed. It is organized around four key elements:

#### Highly Effective Teachers and Leaders and Equitable Teacher Distribution

The foundation of the framework involves a strategic effort to assist school districts in managing their human resources to ensure that every student learns under the guidance of a highly effective teacher, each school is lead by a highly effective principal, and each district by a highly effective superintendent. More specifically:

All students learn under the guidance of a highly effective teacher who has been assigned to them based on the teacher’s ability to address their learning styles. All teachers possess the skills to differentiate instruction to meet the needs of students who need additional intervention or who need accelerated opportunities to learn.

All teachers receive continuous opportunities to improve their practice. The majority of those opportunities occur in small teams of grade level or content area groups of teachers. A support system is in place for all teachers to receive feedback, engage in personal reflection about the quality of their practice and the learning results of their students, and to receive coaching and mentoring to assist in that growth.

All schools and school districts ensure, through a continuous review of student data and classroom observation, that the right teacher is with the right students, and that each school and the school district has highly effective leadership. Schools and school districts engage the entire community to provide the necessary supports to all teachers to ensure that each and every student masters the content and skills necessary to take advantage of 21<sup>st</sup>-century postsecondary opportunities.

All stakeholders involved in the preparation and development of teachers and administrators provide support, assistance and policies to ensure that every student and teacher is provided with essential learning opportunities. In addition, the state advocates to ensure that funding is made available to allow teachers who have shown the greatest effectiveness working with underserved populations are provided incentives to meet the needs of those populations.

#### Focused Standards and a High-Quality Assessment System

The effectiveness of teachers is enhanced by the implementation of a single set of mathematics and English/language arts curriculum standards that is both the standards to be mastered at all of our high schools and the readiness standards for our postsecondary institutions. This single set of standards serve as the guide for Kentucky’s revision of its content standards at all grade levels

making them clearer and more focused which will, in turn, make our state assessments even stronger. This creates an assessment system with the following elements:

Every student is effectively engaged with challenging content reflecting career and college-ready expectations. All students demonstrate mastery of all the standards, not just a few. Students are involved in determining how their learning will be assessed (formative, interim and summative assessment), so performance expectations are clear and lead to improved student learning. Classroom assessments are tightly aligned to standards so that classroom learning experiences lead to success on all other assessment measures.

Every teacher has the knowledge and skills necessary to support the learning of all students. Teachers have high learning expectations for all students and provide the quality of instruction necessary for all students to achieve at high levels. Teachers engage students in determining performance expectations. Teachers use formative, interim and summative assessment to determine the progress students are making toward meeting standards and provide targeted instruction based on the needs of students.

Every school and district administrator shares a vision for high expectations for learning that is shared with all members of the school community. This vision relies on evidence of student learning to best target resources and ensure staff and resources are properly allocated so that all students have access to content and opportunities to learn.

The state engages education stakeholders in setting content standards that are challenging, focused, clear and internationally benchmarked. Ongoing professional learning experiences (e.g. teacher networks, virtual learning, CEO-Superintendent Network) are provided to assist students, teachers and school and district administrators in the implementation and assessment of content standards. The state has developed an accountability system anchored to the standards that provides data around student strengths and weaknesses so that student intervention and acceleration can occur.

#### A Continuum of Interventions that form a System of Support to Low-Performing Schools

The framework uses an intervention system that customizes the support based on the needs of each struggling school and/or school district. The key element of this intervention model is a design that builds the capacity of the administrators and staff in the school district to lead this highly effective learning culture. This model supports each stakeholder group in specific ways:

The intervention model is designed to provide support to schools to ensure that every student is provided instructional services by a teacher who has proven to be effective in working with students with like needs.

All teachers are supported with high-quality, aligned instructional resources designed to reduce and not increase barriers to learning. Teachers are provided with additional support for problems of practice that they might encounter and additional time to improve their instructional practices.

All schools and school districts support teachers and other staff by building a learning culture of clear, high and accountable expectations for all. Additional resources and greater community engagement ensure staffs develop the skills necessary to properly function in this highly effective learning culture.

All state agencies collaboratively provide support and assistance through an intervention system that supports the development of highly effective learning cultures. In this model, the system of interventions is customized to the needs of the school district and is

designed to build the capacity of the administrators and staff in the school district to lead this highly effective learning culture.

#### A Comprehensive Data System to Improve Learning

Kentucky's Statewide Longitudinal Data System specifically supports the needs and goals of each of the other three elements for students, teachers, schools, communities and school districts, along with the KDE and other state agencies. The data system provides timely information about what is effective, where it is effective and for whom so that the education and workforce communities can shift from "autopsy" data use to preventive data use. In this data system environment the following strategies are evident:

Data decisions related to student learning are made with an accessible and longitudinal view of each student's progress and mastery of standards through the P-20 educational environment. These decisions include identification and monitoring students' needs for intervention or acceleration over time. They include established linkages between each student and school, district and state resources that have been deployed or are available. Finally, there is a clear roadmap to success with resources to guide each student in the most efficient manner to reach his or her educational and career goals.

Data decisions to enhance teacher effectiveness are made by connecting student information with teacher preparation and certification, instructional practices, professional development and working conditions. Professional growth plans are based on evidence showing areas of actual need and desired growth based on student learning. Each professional learning opportunity is evaluated using student assessment data to ensure that the opportunities are meeting the needs of Kentucky educators.

Data decisions to improve the delivery of services by every school and district are made using information about reporting burdens imposed on schools and districts so that those burdens can be reduced. The data system provides information about the skills of each teacher so that placement of teachers can be based on skills matched to need. The system provides the ability to analyze the impact of interventions over time, leading to targeted assistance and efficient use of state, district and school resources. The system provides both longitudinal interim performance data for early identification of learning gaps and quick intervention, as well as longitudinal summative performance data for evaluation of school curricula and assessment alignment with evolving standards.

Data decisions to improve delivery of service by the state are made by analyzing the impact of programs over time, allowing for progress monitoring, diagnosis and prescription, internal and external benchmarking, predictive analysis and evaluation. .

Using the SLDS in this way leads to more efficient and less burdensome reporting requirements from all levels to meet state and federal demands. The system eliminates the need for each district to create and maintain its own data system in order to perform analyses needed for local data-informed decisions. . Most importantly, the data system uses efficient programs proven to be effective and flexible enough to meet the needs of all students.

**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 this table to complete the Summary Tables above. (Note: If the State has a large number of participating LEAs (as defined in this notice), it may move this table to an appendix. States should provide in their narrative a clear reference to the appendix that contains the table.)

Participating LEAs	LEA Demographics			Signatures on MOUs			MOU Terms Uses Standard Terms & Conditions? Yes/No	Preliminary Scope of Work – Participation in each applicable Plan Criterion																
	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President or local school board (if applicable)	Teachers Union (if applicable)		(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	
ADAIR COUNTY SCHOOLS	5	2,504	840	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ALLEN COUNTY SCHOOLS	4	2,883	788	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ANCHORAGE INDEPENDENT SCHOOLS	1	371	18	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ANDERSON COUNTY SCHOOLS	6	3,862	404	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ASHLAND INDEPENDENT	9	3,137	851	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

SCHOOLS																							
AUGUSTA INDEPENDENT SCHOOLS	1	288	72	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
BALLARD COUNTY SCHOOLS	4	1,339	274	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
BARBOURVILLE INDEPENDENT SCHOOLS	1	631	164	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
BARDSTOWN INDEPENDENT SCHOOLS	5	2,416	493	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
BARREN COUNTY SCHOOLS	9	4,552	847	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
BATH COUNTY SCHOOLS	4	2,002	656	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
BEECHWOOD INDEPENDENT SCHOOLS	2	1,096	93	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
BELL COUNTY SCHOOLS	7	2,959	990	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
BELLEVUE INDEPENDENT SCHOOLS	2	753	164	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
BEREA INDEPENDENT SCHOOLS	3	1,057	242	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	

BOONE COUNTY SCHOOLS	21	18,785	1,636	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
BOURBON COUNTY SCHOOLS	6	2,588	428	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
BOWLING GREEN INDEPENDENT SCHOOLS	7	3,821	1,129	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
BOYD COUNTY SCHOOLS	9	3,269	597	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
BOYLE COUNTY SCHOOLS	5	2,663	376	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
BRACKEN COUNTY SCHOOLS	3	1,206	211	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
BREATHITT COUNTY SCHOOLS	6	2,150	976	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
BRECKINRIDGE COUNTY SCHOOLS	6	2,665	640	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
BULLITT COUNTY SCHOOLS	21	12,593	1,592	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
BURGIN INDEPENDENT SCHOOLS	2	447	43	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
BUTLER COUNTY SCHOOLS	4	2,084	506	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y



CLARK COUNTY SCHOOLS	12	5,476	1,040	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CLAY COUNTY SCHOOLS	9	3,498	1,784	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CLINTON COUNTY SCHOOLS	4	1,714	492	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CLOVERPORT INDEPENDENT SCHOOLS	3	316	61	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CORBIN INDEPENDENT SCHOOLS	6	2,681	463	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
COVINGTON INDEPENDENT SCHOOLS	8	3,572	1,967	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CRITTENDEN COUNTY SCHOOLS	3	1,285	406	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CUMBERLAND COUNTY SCHOOLS	3	997	362	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
DANVILLE INDEPENDENT SCHOOLS	5	1,726	458	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
DAVISS COUNTY SCHOOLS	17	10,828	1,735	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
DAWSON SPRINGS INDEPENDENT	2	665	164	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

SCHOOLS																						
DAYTON INDEPENDENT SCHOOLS	2	880	231	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
EAST BERNSTADT INDEPENDENT SCHOOLS	1	519	59	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
EDMONSON COUNTY SCHOOLS	5	1,961	469	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ELIZABETHTOWN INDEPENDENT SCHOOLS	4	2,242	361	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ELLIOTT COUNTY SCHOOLS	4	1,113	378	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
EMINENCE INDEPENDENT SCHOOLS	2	651	115	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ERLANGER-ELSMERE INDEPENDENT SCHOOLS	6	2,298	566	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ESTILL COUNTY SCHOOLS	5	2,450	829	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
FAIRVIEW INDEPENDENT SCHOOLS	2	784	128	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
FAYETTE COUNTY	54	36,168	7,210	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

SCHOOLS																						
FLEMING COUNTY SCHOOLS	6	2,364	615	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
FLOYD COUNTY SCHOOLS	15	6,153	2,735	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
FORT THOMAS INDEPENDENT SCHOOLS	5	2,540	146	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
FRANKFORT INDEPENDENT SCHOOLS	2	769	179	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
FRANKLIN COUNTY SCHOOLS	12	5,989	996	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
FULTON COUNTY SCHOOLS	2	536	226	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
FULTON INDEPENDENT SCHOOLS	1	411	180	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
GALLATIN COUNTY SCHOOLS	4	1,576	343	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
GARRARD COUNTY SCHOOLS	5	2,510	631	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
GLASGOW INDEPENDENT SCHOOLS	4	1,942	550	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

GRANT COUNTY SCHOOLS	6	3,826	815	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
GRAVES COUNTY SCHOOLS	10	4,574	916	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
GRAYSON COUNTY SCHOOLS	6	4,219	1,018	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
GREEN COUNTY SCHOOLS	4	1,703	424	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
GREENUP COUNTY SCHOOLS	7	2,993	768	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
HANCOCK COUNTY SCHOOLS	4	1,635	244	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
HARDIN COUNTY SCHOOLS	20	14,000	2,110	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
HARLAN COUNTY SCHOOLS	9	4,121	1,743	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
HARLAN INDEPENDENT SCHOOLS	3	845	164	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
HARRISON COUNTY SCHOOLS	6	3,112	548	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
HART COUNTY SCHOOLS	6	2,279	784	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y





SCHOOLS																						
LIVINGSTON COUNTY SCHOOLS	4	1,250	249	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
LOGAN COUNTY SCHOOLS	6	3,513	598	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
LUDLOW INDEPENDENT SCHOOLS	2	874	212	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
LYON COUNTY SCHOOLS	3	867	150	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MADISON COUNTY SCHOOLS	19	10,732	2,246	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MAGOFFIN COUNTY SCHOOLS	5	2,261	915	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MARION COUNTY SCHOOLS	7	3,184	668	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MARSHALL COUNTY SCHOOLS	11	4,731	681	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MARTIN COUNTY SCHOOLS	7	2,121	868	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MASON COUNTY SCHOOLS	4	2,764	712	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MAYFIELD INDEPENDENT	3	1,473	508	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

SCHOOLS																							
MCCRACKEN COUNTY SCHOOLS	12	7,021	1,073	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MCCREARY COUNTY SCHOOLS	6	3,042	1,493	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MCLEAN COUNTY SCHOOLS	5	1,624	332	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MEADE COUNTY SCHOOLS	10	4,942	689	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MENIFEE COUNTY SCHOOLS	3	1,160	353	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MERCER COUNTY SCHOOLS	5	3,111	608	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
METCALFE COUNTY SCHOOLS	6	1,677	562	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MIDDLESBORO INDEPENDENT SCHOOLS	4	1,503	534	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MONROE COUNTY SCHOOLS	5	1,920	590	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MONTGOMERY COUNTY SCHOOLS	6	4,535	869	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MONTICELLO INDEPENDENT	3	840	314	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

SCHOOLS																							
MORGAN COUNTY SCHOOLS	6	2,102	655	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MUHLENBERG COUNTY SCHOOLS	9	5,054	1,177	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MURRAY INDEPENDENT SCHOOLS	4	1,393	255	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
NELSON COUNTY SCHOOLS	9	4,694	566	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
NEWPORT INDEPENDENT SCHOOLS	5	1,878	723	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
NICHOLAS COUNTY SCHOOLS	2	1,172	234	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
OHIO COUNTY SCHOOLS	8	3,803	1,036	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
OLDHAM COUNTY SCHOOLS	19	11,720	451	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
OWEN COUNTY SCHOOLS	4	1,866	381	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
OWENSBORO INDEPENDENT SCHOOLS	9	4,032	1,540	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

OWSLEY COUNTY SCHOOLS	2	773	391	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PADUCAH INDEPENDENT SCHOOLS	6	2,706	1,171	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PAINTSVILLE INDEPENDENT SCHOOLS	2	803	201	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PARIS INDEPENDENT SCHOOLS	4	758	237	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PENDLETON COUNTY SCHOOLS	4	2,598	475	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PERRY COUNTY SCHOOLS	12	4,194	1,691	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PIKE COUNTY SCHOOLS	22	9,654	2,296	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PIKEVILLE INDEPENDENT SCHOOLS	2	1,189	244	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PINEVILLE INDEPENDENT SCHOOLS	2	541	138	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
POWELL COUNTY SCHOOLS	5	2,491	806	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PULASKI COUNTY SCHOOLS	13	7,971	2,290	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y



SCHOOLS																						
SIMPSON COUNTY SCHOOLS	5	2,981	526	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SOMERSET INDEPENDENT SCHOOLS	3	1,435	445	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SOUTHGATE INDEPENDENT SCHOOLS	1	215	39	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SPENCER COUNTY SCHOOLS	5	2,770	300	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
TAYLOR COUNTY SCHOOLS	3	2,648	454	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
TODD COUNTY SCHOOLS	4	1,985	595	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
TRIGG COUNTY SCHOOLS	4	2,038	441	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
TRIMBLE COUNTY SCHOOLS	4	1,516	280	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
UNION COUNTY SCHOOLS	5	2,247	473	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
WALTON VERONA INDEPENDENT SCHOOLS	3	1,477	111	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
WARREN COUNTY SCHOOLS	19	13,136	2,497	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

WASHINGTON COUNTY SCHOOLS	4	1,659	340	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
WAYNE COUNTY SCHOOLS	6	2,454	907	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
WEBSTER COUNTY SCHOOLS	6	2,144	405	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
WEST POINT INDEPENDENT SCHOOLS	1	99	39	Y	Y	N/A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
WHITLEY COUNTY SCHOOLS	9	4,521	1,748	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
WILLIAMSBURG INDEPENDENT SCHOOLS	1	741	345	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
WILLIAMSTOWN INDEPENDENT SCHOOLS	3	890	103	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
WOLFE COUNTY SCHOOLS	5	1,287	697	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
WOODFORD COUNTY SCHOOLS	7	4,002	488	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

## Kentucky Race to the Top Participating School District Memorandum of Understanding

---

This Memorandum of Understanding (“MOU”) is entered into by and between the Kentucky Department of Education (KDE) and the \_\_\_\_\_ School District (“Participating School District”). The purpose of this agreement is to establish a framework of collaboration, as well as articulate specific roles and responsibilities in support of Kentucky’s implementation of an approved Race to the Top grant project. This MOU was approved at a meeting of the \_\_\_\_\_ Board of Education on \_\_\_\_\_. The approval is contained in the board minutes that are available for review at the district’s central office. All pertinent information related to this MOU is available for review at the district’s central office.

### I. SCOPE OF WORK

Exhibit I, the Preliminary Scope of Work, indicates which portions of Kentucky’s proposed reform plans (“Kentucky’s Race to the Top Plan”) the Participating School District is agreeing to implement. (Note that, in order to be a Participating School district, the district must agree to implement all of “Exhibit I: Preliminary Scope of Work”.)

### II. PROJECT ADMINISTRATION

#### A. PARTICIPATING SCHOOL DISTRICT RESPONSIBILITIES

In assisting KDE in implementing the tasks and activities described in Kentucky’s Race to the Top application, the Participating School District subgrantee will:

- 1) implement the district plan as identified in Exhibit I (Preliminary Scope of Work) and Exhibit II (the final scope of work) of this agreement;
- 2) actively participate in all relevant convenings, communities of practice, or other practice-sharing events that are organized or sponsored by KDE or by the U.S. Department of Education (“USED”);
- 3) in a timely manner, post to any Website specified by KDE or USED, all non-proprietary products and lessons learned using funds associated with the Race to the Top grant;
- 4) participate, as requested, in any evaluations of this grant conducted by the KDE or USED;
- 5) be responsive to KDE or USED requests for information including the status of the project, project implementation, outcomes, and any problems anticipated or encountered; and
- 6) participate in meetings and telephone conferences with the KDE 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
  - (d) other matters related to the Race to the Top grant and associated plans

#### B. KDE RESPONSIBILITIES

In assisting Participating School Districts in implementing their tasks and activities described in the Kentucky’s Race to the Top application, the KDE will:

- 1) work collaboratively with, and support the Participating School District in carrying out the school district plan as identified in Exhibits I and II of this agreement;

- 2) timely distribute the school district's portion of Race to the Top grant funds during the course of the project period and in accordance with the school district Plan identified in Exhibit II;
- 3) provide feedback on the school district'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) KDE and the Participating School District will each appoint a contact person for the Race to the Top grant.
- 2) These contact persons from KDE and the Participating School District will maintain frequent communication to facilitate cooperation under this MOU.
- 3) KDE and Participating School District grant personnel will work together to determine appropriate timelines for project updates and status reports throughout the whole grant period.
- 4) KDE and Participating School District grant personnel will negotiate in good faith to continue to achieve the overall goals of Kentucky's Race to the Top grant, even when Kentucky's Race to the Top Plan requires modifications that affect the Participating School District, or when the district plan requires modifications.

### **D. KDE RECOURSE FOR SCHOOL DISTRICT NON-PERFORMANCE**

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

### **III. ASSURANCES**

The Participating School District hereby certifies and represents that it:

- 1) has all requisite power and authority to execute this MOU;
- 2) is familiar with the concepts in Kentucky's Race to the Top grant proposal and is supportive of and committed to working on Kentucky's entire Race to the Top Plan;
- 3) agrees to be a Participating School District and will implement those portions of Kentucky's Race to the Top Plan indicated in Exhibit I, if Kentucky's application is funded;
- 4) will provide a Final Scope of Work to be attached to this MOU as Exhibit II only if Kentucky'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 district's specific goals, activities, timelines, budgets, key personnel, and annual targets for key performance measures ("School District Plan ") in a manner that is consistent with the Preliminary Scope of Work (Exhibit I) and with Kentucky's Race to the Top Plan; and
- 5) will comply with all of the terms of the Race to the Top grant, Kentucky'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 an authorized KDE official and the Participating School District, and in consultation with USED.

**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**

**School District Superintendent (or equivalent authorized signatory):**

\_\_\_\_\_  
Signature/Date

\_\_\_\_\_  
Print Name

**Chairperson of Local District’s Board of Education:**

\_\_\_\_\_  
Signature/Date

\_\_\_\_\_  
Print Name

**Local Education/Teacher Association Leader:**

\_\_\_\_\_  
Signature/Date

\_\_\_\_\_  
Print Name

**Commissioner, Kentucky Department of Education, Commonwealth of Kentucky – required:**  
By the signature below, KDE hereby accepts the school district as a Participating School District.

\_\_\_\_\_  
Signature/Date

Terry Holliday, EdD  
Commissioner of Education

**A. EXHIBIT I – PARTICIPATING SCHOOL DISTRICT  
PRELIMINARY SCOPE OF WORK**

<b>Elements of Kentucky’s Reform Plans</b>	
<b>B. Standards and Assessments</b>	
<ul style="list-style-type: none"> <li>• Participate in professional learning to ensure standards are taught to mastery in every classroom for every child</li> <li>• Provide resources to regional educational cooperatives and other providers to support coordination and provision of professional learning opportunities</li> <li>• Deploy high-quality, on-line instructional tools to assist in the implementation of new standards and assessments</li> </ul>	
<b>C. Data Systems to Support Instruction</b>	
<ul style="list-style-type: none"> <li>• Provide high-quality data to state, to ensure that the system delivers data of value to districts</li> <li>• Commit to increased use of Kentucky Statewide Longitudinal Data System</li> <li>• Deploy the state’s online instructional improvement system to provide access to resources from across the state and beyond</li> <li>• Deliver targeted professional learning opportunities to teachers and principals to increase usage</li> </ul>	
<b>D. Great Teachers and Leaders</b>	
<ul style="list-style-type: none"> <li>• Implement teacher and principal growth models for all schools in the districts</li> <li>• Implement state’s teacher and principal evaluation systems to increase effectiveness of teaching</li> <li>• Alter approaches to professional learning, compensation, and / or career paths to cultivate and retain effective teachers</li> <li>• Act on information to increase equity of access to effective teachers</li> <li>• Commit to participate in successful strategies for equitable distribution</li> <li>• Use measures of program effectiveness to focus recruitment efforts on most effective teacher and principal preparation programs</li> <li>• Deploy the state’s online instructional improvement system to provide access to resources from across state and beyond</li> <li>• Reinforce and support the state approach to professional learning</li> </ul>	
<b>E. Turning Around the Lowest-Achieving Schools (The Bottom 5%)</b>	
<ul style="list-style-type: none"> <li>• If applicable, commit to implementing one of the four identified methods for turning around the lowest achieving schools</li> <li>• If applicable, partner with state, school support organizations, and others to effectively turnaround schools</li> </ul>	

For the \_\_\_\_\_ School District :

For the Ky. Department of Education:

\_\_\_\_\_  
Superintendent Signature/Date

\_\_\_\_\_  
Terry Holliday, EdD  
Commissioner of Education

---

Print Name



(A)(1)(ii)(a) Student achievement in reading / language arts and mathematics

Demographic category	Demographic group	Baseline / most recent year	2014	2020
Mathematics - NAEP, 4th grade				
	Overall	26%	35%	54%
African American	White	28%	41%	54%
	African American	03%	21%	44%
Hispanic	Hispanic	10%	24%	44%
	Other	42%	47%	54%
English Language Learners	English Language Learners	28%	38%	54%
	Other	23%	35%	54%
Other	Other	10%	24%	44%
	Other	28%	38%	54%
Mathematics - NAEP, 8th grade				
	Overall	16%	27%	44%
African American	White	18%	28%	44%
	African American	7%	12%	34%
Hispanic	Hispanic	04%	16%	34%
	Other	27%	34%	44%
English Language Learners	English Language Learners	21%	31%	44%
	Other	14%	26%	44%
Other	Other	6%	11%	34%
	Other	18%	28%	44%

Note: Kentucky does not have a statistically significant percentage of other minority groups nor of English Language Learners on the above assessments

Note: ESEA assessments are under revision due to recent passage of Senate Bill 1. Once they are implemented in 2011-12, their targets will be determined consistent with the above projected student growth

(A)(1)(ii)(b) Achievement gaps in reading / language arts and mathematics

Demographic category	Demographic group	Baseline / most recent year	2014	2020
Reading - NAEP, 4th grade				
Ax q bd	F`o , AK bj `nc V ghsd	10	06	7
Ax rnbmbnml lbrs`sr	F`o , Dlk hald `nc Mnsdkl hald	14	1/	0/
Ax f dmedq	F`o , L`kd`nc Edl `kd	7	4	/
Ax chr`alhs`rs`sr	F`o , Chr`alhs`nc Mnschr`alhs`	06	04	0/
Qd`chr` , MDO+7g f`q`cd				
Ax q bd	F`o , AK bj `nc V ghsd	05	02	7
Ax rnbmbnml lbrs`sr	F`o , Dlk hald `nc Mnsdkl hald	10	06	0/
Ax f dmedq	F`o , L`kd`nc Edl `kd	03	00	4
Ax chr`alhs`rs`sr	F`o , Chr`alhs`nc Mnschr`alhs`	11	07	0/

Note: Kentucky does not have a statistically significant percentage of other minority groups nor of English Language Learners on the above assessments

Note: ESEA assessments are under revision due to recent passage of Senate Bill 1. Once they are implemented in 2011-12, their targets will be determined consistent with the above projected student growth

(A)(1)(ii)(b) Achievement gaps in reading / language arts and mathematics

Demographic category	Demographic group	Baseline / most recent year	2014	2020
L <sup>1</sup> sgd <sup>1</sup> s <sup>1</sup> br, M <sup>1</sup> DO+3sg f <sup>1</sup> q cd Ax q <sup>1</sup> bd	F <sup>1</sup> o, AK bj <sup>1</sup> n <sup>1</sup> c V g <sup>1</sup> sd	14	08	7
	Ax rnb <sup>1</sup> mbn <sup>1</sup> ml <sup>1</sup> l <sup>1</sup> br s <sup>1</sup> r			
	F <sup>1</sup> o, D <sup>1</sup> l <sup>1</sup> h <sup>1</sup> ald <sup>1</sup> n <sup>1</sup> c M <sup>1</sup> nsd <sup>1</sup> l <sup>1</sup> h <sup>1</sup> ald	20	13	0/
	Ax f <sup>1</sup> d <sup>1</sup> ne <sup>1</sup> dq			
L <sup>1</sup> sgd <sup>1</sup> s <sup>1</sup> br, M <sup>1</sup> DO+7sg f <sup>1</sup> q cd Ax q <sup>1</sup> bd	F <sup>1</sup> o, L <sup>1</sup> k <sup>1</sup> n <sup>1</sup> c Edl <sup>1</sup> k <sup>1</sup>	'4(	'2(	/
	Ax cl <sup>1</sup> r <sup>1</sup> al <sup>1</sup> ts <sup>1</sup> r <sup>1</sup> s <sup>1</sup> r			
	F <sup>1</sup> o, Cl <sup>1</sup> r <sup>1</sup> al <sup>1</sup> ts <sup>1</sup> n <sup>1</sup> c M <sup>1</sup> nscl <sup>1</sup> r <sup>1</sup> al <sup>1</sup> ts <sup>1</sup>	07	04	0/
	Ax rnb <sup>1</sup> mbn <sup>1</sup> ml <sup>1</sup> l <sup>1</sup> br s <sup>1</sup> r			
L <sup>1</sup> sgd <sup>1</sup> s <sup>1</sup> br, M <sup>1</sup> DO+7sg f <sup>1</sup> q cd Ax q <sup>1</sup> bd	F <sup>1</sup> o, AK bj <sup>1</sup> n <sup>1</sup> c V g <sup>1</sup> sd	10	05	7
	Ax rnb <sup>1</sup> mbn <sup>1</sup> ml <sup>1</sup> l <sup>1</sup> br s <sup>1</sup> r			
	F <sup>1</sup> o, D <sup>1</sup> l <sup>1</sup> h <sup>1</sup> ald <sup>1</sup> n <sup>1</sup> c M <sup>1</sup> nsd <sup>1</sup> l <sup>1</sup> h <sup>1</sup> ald	13	08	0/
	Ax f <sup>1</sup> d <sup>1</sup> ne <sup>1</sup> dq			
L <sup>1</sup> sgd <sup>1</sup> s <sup>1</sup> br, M <sup>1</sup> DO+7sg f <sup>1</sup> q cd Ax q <sup>1</sup> bd	F <sup>1</sup> o, L <sup>1</sup> k <sup>1</sup> n <sup>1</sup> c Edl <sup>1</sup> k <sup>1</sup>	'4(	'3(	/
	Ax cl <sup>1</sup> r <sup>1</sup> al <sup>1</sup> ts <sup>1</sup> r <sup>1</sup> s <sup>1</sup> r			
	F <sup>1</sup> o, Cl <sup>1</sup> r <sup>1</sup> al <sup>1</sup> ts <sup>1</sup> n <sup>1</sup> c M <sup>1</sup> nscl <sup>1</sup> r <sup>1</sup> al <sup>1</sup> ts <sup>1</sup>	10	06	0/
	Ax rnb <sup>1</sup> mbn <sup>1</sup> ml <sup>1</sup> l <sup>1</sup> br s <sup>1</sup> r			

Note: Kentucky does not have a statistically significant percentage of other minority groups nor of English Language Learners on the above assessments

Note: ESEA assessments are under revision due to recent passage of Senate Bill 1. Once they are implemented in 2011-12, their targets will be determined consistent with the above projected student growth

*(A)(1)(ii)(c) and (A)(1)(ii)(c) High school graduation and college enrollment and persistence*

Demographic category	Demographic group	Baseline / most recent year	2014	2020
High school graduation (Averaged Freshman Graduation Rate)	<del>@K r &amp; c dnr</del>	64\$	7/ \$	74\$
College entrance	<del>@K r &amp; c dnr</del>	44\$	6/ \$	7/ \$
College persistence for one year	<del>@K r &amp; c dnr</del>	60\$	64\$	74\$
Percentage decrease in college remediation rates for freshmen	<del>@K r &amp; c dnr</del>	M@	4/ \$	64\$

Note: Kentucky is transitioning to the cohort graduation rate as described in more detail in criteria (A)(3). Kentucky does not currently have the capacity to disaggregate graduation rate by student subgroup and has a plan in place to address this, approved by USED.

## Kentucky Race to the Top budgets and budget narratives

### Table of Contents

<b>Budget Summary Table and Narrative</b> .....	2
<b>Project #1: Professional Learning for Teachers and Principals</b> .....	10
<b>Project #2: Statewide longitudinal data system</b> .....	19
<b>Project #3: Continuous instructional improvement technology system</b> .....	31
<b>Project #4: Effective Teachers and Leaders</b> .....	37
<b>Project #5: Effectiveness of teacher and principal preparation programs</b> .....	43
<b>Project #6: Educational Recovery for the lowest-achieving schools</b> .....	47
<b>Project #7: Race to the Top Project Management</b> .....	51

**Budget Summary Table and Narrative**

<b>Budget Part I: Budget Summary Table (Evidence for selection criterion (A)(2)(i)(d))</b>					
<b>Budget Categories</b>	<b>Project Year 1</b>	<b>Project Year 2</b>	<b>Project Year 3</b>	<b>Project Year 4</b>	<b>Total</b>
1. Personnel	\$562,500	\$2,250,000	\$2,512,500	\$2,175,000	\$7,500,000
2. Fringe Benefits	\$168,750	\$675,000	\$753,750	\$652,500	\$2,250,000
3. Travel	\$226,675	\$143,475	\$59,100	\$44,100	\$473,350
4. Equipment	\$492,648	\$787,250	\$0	\$0	\$1,279,898
5. Supplies	\$466,000	\$3,376,000	\$2,301,000	\$2,000	\$6,145,000
6. Contractual	\$15,475,875	\$15,131,830	\$9,692,785	\$5,200,865	\$45,501,355
7. Training Stipends	\$0	\$12,000	\$12,000	\$0	\$24,000
8. Other	\$0	\$0	\$0	\$0	\$0
9. Total Direct Costs (lines 1-8)	\$17,392,448	\$22,375,555	\$15,331,135	\$8,074,465	\$63,173,603
10. Indirect Costs*	\$200,773	\$908,672	\$793,317	\$405,179	\$2,307,941
11. Funding for Involved LEAs	\$0	\$0	\$0	\$0	\$0
12. Supplemental Funding for Participating LEAs	\$3,885,000	\$1,825,000	\$1,825,000	\$1,825,000	\$9,360,000
13. Total Costs (lines 9-12)	\$21,478,221	\$25,109,227	\$17,949,452	\$10,304,644	\$74,841,544
14. Funding Subgranted to Participating LEAs (50% of Total Grant)	\$36,550,000	\$25,645,000	\$24,990,000	\$12,815,000	\$100,000,000
15. Total Budget (lines 13-14)	\$58,028,221	\$50,754,227	\$42,939,452	\$23,119,644	\$174,841,544
<i>Note: Calculations were conducted in a separate spreadsheet. Due to rounding, there may be small errors in the figures above.</i>					

### **Budget Summary Narrative**

Kentucky's reform plans are bold and aggressive, and will require significant investments of time, resources, and funding to ensure success. The Commonwealth is committed to implementing all of the plans described in this application. A Race to the Top grant award would enable the State to accelerate this work and complete all necessary reforms to lead to dramatic changes in student outcomes statewide. In addition to a Race to the Top grant award, Kentucky will leverage other sources of federal, state, local, and philanthropic funding to support the reform plans as noted within the project-level budget explanations below.

Given Kentucky's rural nature, and the fact that all of Kentucky's LEAs have fully signed on as participants in the Race to the Top implementation, the plans are such that the State is taking on a significant portion of the work to design and develop tools to support LEAs with implementation. The approach to creating the project-level budgets involved determining detailed estimates of the costs for the State's activities within each of the reform plans. The total budget to implement the plans detailed in this Race to the Top application is \$174,841,544 including a 57% share for Participating LEAs.

#### **Overview of project-level budgets**

Kentucky has organized its reform plans and project management into the following seven projects:

- Project 1: Professional learning for teachers and principals
- Project 2: Statewide longitudinal data system
- Project 3: Continuous instructional improvement technology system
- Project 4: Effective teachers and leaders
- Project 5: Effectiveness of teacher and principal preparation programs
- Project 6: Educational Recovery for the lowest-achieving schools
- Project 7: Race to the Top project management

*Project 1: Professional learning for teachers and principals*

This project is associated with criteria (B)(3) and (D)(5) and outlines Kentucky's approach to professional learning through the development of professional networks, firstly to facilitate the transition to the new standards and assessments, and on an ongoing basis as a statewide infrastructure for rolling out statewide initiatives, sharing promising practices, and improving access to expertise for more remote regions. The costs of this work to the State that would be covered by a Race to the Top grant award are ~\$22.2M.

The following activities are the primary cost drivers within this project:

- Building networks for professional learning for all educators, including postsecondary education faculty, that are firstly focused on deconstructing the new standards
- Engaging parents and community members through a broad-based public awareness campaign
- Increasing access to challenging coursework and STEM subject areas by expanding initiatives like AdvanceKentucky and Project Lead The Way
- Piloting a residency model for aspiring teachers

It is the State's expectation that a large portion of Participating LEAs' subgrants will be utilized for the activities included in this project. In particular, LEAs will cover the costs associated with sending representatives to network meetings, establishing strong professional learning teams at every school, providing ongoing, effective teacher and principal professional learning, and increasing access to challenging STEM courses through AdvanceKentucky and Project Lead The Way.

*Project 2: Statewide longitudinal data system*

This budget includes the costs associated with the expansion of the Kentucky Statewide Longitudinal Data System (KY SLDS) and access to and use of KY SLDS data, as described in the reform plan in section (C)(2). Kentucky submitted an application for the ARRA SLDS grant in December 2009. Given the highly competitive nature of the ARRA SLDS grant, following guidance from USED as relayed in the Race to the Top FAQ item M-4, Kentucky has included

the work and costs from the ARRA SLDS grant proposal in the Project 2 budget. All costs for this project are described in detail below, totaling ~\$14.7M.

The following activities are the primary cost drivers within this project:

- Expanding the Kentucky Statewide Longitudinal Data System to include data from the Council on Postsecondary Education and the Education Professional Standards Board, early childhood data, and student financial aid and workforce data, as well ensuring effective data governance and data quality
- Improving accessibility to longitudinal data by providing role-based access to all stakeholders and improving the reports the Kentucky Department of Education produces
- Developing and implementing high-quality professional learning opportunities for stakeholders around how to access and use longitudinal data to improve student outcomes

The State plans to fund this work over the next four years with its portion of the Race to the Top award and the ARRA SLDS award should Kentucky be awarded those grants. Kentucky does not expect Participating LEAs to fund the statewide longitudinal data system development; however, Participating LEAs may augment State-provided training with additional local training related to data access and use.

### *Project 3: Continuous instructional improvement technology system*

This project is associated with criteria (C)(3) and outlines Kentucky's approach to developing a continuous instructional improvement system (CIITS) available to teachers and principals online. Through the CIITS, every teacher and principal will have access to data on their students' learning and achievement, data on their own professional growth, and a variety of resources for curriculum, assessments, instruction, professional learning, and school improvement at their fingertips. The costs of this work to the State that would be covered by a Race to the Top grant award are ~\$6M.

The following activities are the primary cost drivers within this project:

- Developing the CIITS infrastructure and the content to be integrated into the system (e.g., resources to deconstruct the standards)

## Kentucky Race to the Top Application: Budgets & Budget Narratives

- Developing professional learning opportunities / content for teachers and principals in accessing and using the CIITS and providing personnel at the regional networks to lead the implementation of this work
- Funding researchers / evaluators to access and use data from the CIITS and KY SLDS to identify effective practices in educating all of our students

It is the State's expectation that a large portion of Participating LEAs' subgrants will be utilized for the activities included in this project. In particular, LEAs will be responsible for using their subgrants to pay for their licenses to use the CIITS system once it is developed. Furthermore, LEAs will cover the costs associated with sending representatives to network meetings, establishing strong professional learning teams at every school, and providing ongoing, effective teacher and principal professional learning.

### *Project 4: Effective teachers and principals*

This project is associated with criteria (D)(2) and (D)(3) and outlines Kentucky's approach to developing statewide evaluation systems for teachers and principals based on growth models that include multiple measures of effectiveness. The Wallace Foundation has supported this work, which was launched in 2009, and will continue to support Kentucky with the development of the teacher and principal growth models. Additional sources of funding for this work include Title II funding and Teacher Incentive Fund grants. The costs of this work to the State that would be covered by a Race to the Top grant award are ~\$15.2M.

The following activities are the primary cost drivers within this project:

- Developing and implementing the growth models and accompanying evaluation system statewide
- Piloting innovative equitable distribution models in select districts
- Introducing the Teach For America program into Kentucky
- Increasing the quantity and quality of data collected in teachers' and principals' critical internship year

It is the State's expectation that a large portion of Participating LEAs' subgrants will be utilized for the activities included in this project. In particular, LEAs will cover the costs associated with the professional learning necessitated by the new statewide approach to evaluation (e.g., training for teacher and principal evaluators). Additionally, LEAs will cover the costs associated the implementing decision-making processes based on the new evaluation system and growth models. This will mean repurposing existing funding and allocating a portion of the Race to the Top subgrant.

*Project 5: Effectiveness of teacher and principal preparation programs*

This project is associated with criterion (D)(4) and outlines Kentucky's approach to developing the Effective Educator Preparation Index (EEPI) and the Effective Principal Preparation Index (EPPI) which measure and report the effectiveness of teacher and principal preparation programs, respectively. The costs of this work to the State that would be covered by a Race to the Top grant award are ~\$3.9M.

The primary cost driver within this project is the development of the Indices, which utilize multiple measures to evaluate and report out on the effectiveness of Kentucky's teacher and principal preparation programs.

*Project 6: Educational Recovery for the lowest-achieving schools*

This project is associated with criterion (E)(2) and outlines Kentucky's approach to turning around the lowest-achieving schools in the Commonwealth. The majority of the costs of this project will be covered by federal School Improvement Grants and State School Improvement funds. The costs to the State that would be covered by a Race to the Top grant award are ~\$6.1M.

The following activities are the primary cost drivers within this project:

- Creating Centers for Learning Excellence that facilitate and support Educational Recovery schools
- Developing and launching Educational Recovery Specialist and Leader endorsement programs

*Project 7: Race to the Top project management*

This project is associated with criterion (A)(2) and outlines Kentucky's approach to overall Race to the Top project leadership and management of the grant as detailed in section (A)(2). To ensure sufficient capacity at all levels of the education system, this project also includes funding to supplement Participating LEAs for whom the Title I formula may result in insufficient funding to fully implement Kentucky's Race to the Top plans. Furthermore, given Kentucky's focus on fostering innovation, Project 7 includes an "Innovation Fund" from which competitive grants will be awarded to LEAs who propose new, innovative projects with the aims of increasing student learning in their districts, as detailed in (A)(2). The costs of this work to the State that would be covered by a Race to the Top grant award are \$6.9M.

The following activities are the primary cost drivers within this project:

- Creating a Race to the Top project management and facilitation role at the Kentucky Department of Education
- Developing and implementing project management processes to monitor the Race to the Top grant work
- Providing supplemental funding for LEAs that would need additional resources (beyond their share of the 50% subgrant) to fully implement all Race to the Top plans
- Providing additional innovation funding for LEAs that submit proposals detailing specific innovative projects

**Approach to Participating LEAs with insufficient Title I shares**

As noted in Project 7, due to the Title I funding formula method of subgranting 50% of a potential Race to the Top award to LEAs, the State will provide supplementary grants to Participating LEAs who have Race to the Top subgrants deemed insufficient to implement the Race to the Top plans as codified in the Memorandum of Understanding. Preliminary estimates identify approximately 30 LEAs in this category. In total, approximately \$3,000,000 is required to ensure such LEAs have the estimated minimum funding level to fully implement the Race to the Top initiatives.

In addition, the Department intends to cultivate “bottom up” innovation that will advance the Commonwealth’s reform plan by inviting interested LEAs to propose additional innovations that they would like to pursue under the aegis of Race to the Top in the scopes of work that the LEAs will be developing for review and approval by the Department (*see section (A)(2) for further detail*). The Department recognizes that some LEAs will need to devote all of their Race to the Top allocations to carrying out the baseline expectations of the Commonwealth’s reform plan. To ensure that all Participating LEAs who propose compelling and competitive innovations along the lines described above will be able to carry them out, the Department is budgeting a special fund of \$2,500,000 within the State budget and will make it available to those LEAs who propose especially promising innovations but are not able to fund them out of their initial allocations due to the work they must do to meet the reform plan’s universal expectations.

#### **Approach to Participating LEAs with substantial Title I shares**

As it is the Title I formula that is used to allocate the LEA subgrants across Participating LEAs, some Participating LEAs will have more than the projected amount of money to fully implement Race to the Top plans. LEAs that have substantial additional funds will work in partnership with the Kentucky Department of Education to craft a scope of work that directs these funds towards high-impact activities in the four assurance areas. This may include:

- Piloting innovative ideas that are described in the reform plans in this Race to the Top application at the district level
- Piloting innovative ideas developed at the district level above and beyond those already specified in the reform plans in the four assurance areas (*see (A)(2) for potential examples*)
- Creating infrastructure to appropriately link locally-developed approaches with statewide systems (for example, linking a district-developed formative assessment system into the CIITS described in (C)(3))

For LEAs with struggling schools, and Educational Recovery schools in particular, extra funding will be focused on school improvement and turnaround.

**Project #1: Professional Learning for Teachers and Principals**

<b>Budget Part II: Project-Level Budget Table</b> Project Name: Professional Learning for Teachers and Principals Associated with Criteria: (B)(3) & (D)(5) (Evidence for selection criterion (A)(2)(i)(d))					
Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total (e)
1. Personnel	\$ 0	\$1,350,000	\$1,350,000	\$1,350,000	\$ 4,050,000
2. Fringe Benefits	\$ 0	\$405,000	\$405,000	\$405,000	\$1,215,000
3. Travel	\$132,300	\$44,100	\$44,100	\$44,100	\$264,600
4. Equipment	\$0	\$0	\$0	\$0	\$0
5. Supplies	\$0	\$0	\$0	\$0	\$0
6. Contractual	\$7,396,875	\$2,863,750	\$2,845,625	\$2,380,625	\$15,486,875
7. Training Stipends	\$0	\$0	\$0	\$0	\$0
8. Other	\$0	\$0	\$0	\$0	\$0
9. Total Direct Costs (lines 1-8)	\$7,529,175	\$4,662,850	\$4,644,725	\$4,179,725	\$21,016,475
10. Indirect Costs*	\$ 18,654	\$253,673	\$253,673	\$253,673	\$ 779,673
11. Funding for Involved LEAs	\$0	\$0	\$0	\$0	\$0
12. Supplemental Funding for Participating LEAs	\$360,000	\$0	\$0	\$0	\$360,000
13. Total Costs (lines 9-12)	\$7,907,829	\$4,916,523	\$4,898,398	\$4,419,023	\$22,156,148
<i>Note: Calculations were conducted in a separate spreadsheet. Due to rounding, there may be small errors in the figures above.</i>					

### **Project #1: Professional Learning for Teachers and Principals**

This budget includes the costs associated with Kentucky's plans for professional learning to increase the effectiveness of all teachers and principals. Given the Commonwealth's focus on student learning, this work begins with the transition to the new standards and assessments as described in section (B)(3). While implementing the new standards and assessments is the leading edge of Kentucky's hybrid approach to professional learning (building professional networks and utilizing technology systems), this approach will be the statewide model on an ongoing basis, as described in section (D)(5). The total for the State's budget for Project 1 is ~\$22.2M, with a detailed cost breakdown below.

All direct costs for this project fall under one of the following categories: "Personnel," "Fringe benefits," "Travel," and "Contractual," with the remaining costs falling within "Indirect Costs" and "Supplemental Funding for Participating LEAs." The costs described in detail below explain the portions of the State's work that the Race to the Top grant award would fund. However, much of the professional learning work going forward will be covered by LEAs' existing funds allocated toward professional learning and other training programs, as well as the LEAs' Race to the Top subgrant. Furthermore, the legislative changes affecting Kentucky's approach to professional learning will enable greater flexibility with teacher and principal time, enabling the provision of more efficient and effective professional learning experiences.

#### **Line item 1: Personnel**

##### *Implementation Coordinators*

- Purpose: The two Implementation Coordinators in each region will be staff of the Kentucky Department of Education and will lead, in partnership with Educational Cooperative staff, postsecondary education faculty, and content area experts, the network-based implementation of the transition to the new standards and assessments.

The base salary for this position is \$75,000, and there will be two Implementation Coordinators in each of the nine networks, or 18 Implementation Coordinators total. These are three-year positions, totaling \$5,400,000 that will be charged to a potential Race to the Top grant award.

The state agency has redirected funding to assist in the launch of the professional learning

networks. The first year personnel costs associated with this activity have been absorbed ensuring our commitment and capacity to implement our overall plan.

**Line item 2: Fringe benefits**

*Implementation Coordinators*

- The fringe benefit percentage is 30% to cover employee benefits. Applied to the total salary costs for 18 Implementation Coordinators for three-year terms as noted above, the total fringe benefit cost is \$1,215,000 that will be charged to the potential Race to the Top grant award. The first year fringe benefit costs have been absorbed by the state agency, as outlined above.

**Line item 3: Travel**

*Core Oversight Team*

- Purpose of travel: To provide technical assistance to 49 networks (there will be more networks over time for additional subject areas, but these will not be funded by the potential Race to the Top grant award.) The Core Oversight Team will provide training and support for facilitators and on-site Department staff leading networks on a monthly basis.
- Cost detail:

<i>Travel costs include the average mile reimbursements of \$100 per person and a per diem of \$25 per person</i>	<i># of Trips</i>	<i>\$ per Trip</i>	<i>Annual total</i>
During Year 1, three members of the Core Oversight Team will travel for in-person technical assistance sessions with network leaders monthly for 6 months. They will be on-site for 2 days.	3 members of the Core Oversight Team x 49 networks x 6 trips	\$150	\$132,300 for Year 1
During Years 2, 3, and 4, three members of the Core Oversight Team will travel for in-person technical assistance sessions with network leaders at two different times during the year. They will be on-site for 2 days	3 members of the Core Oversight Team x 49 networks x 2 trips	\$150	\$44,100 for Years 2, 3, 4

- The annual totals included above will apply for Project Years 1 through 4, totaling \$264,600 that will be charged to a Race to the Top grant award. In the fourth year, this type of technical assistance will be assessed, and if still warranted, will be funded by the Kentucky Department of Education’s budget for ongoing Senate Bill 1 implementation.

**Line item 6: Contractual**

Note: Kentucky has followed the procedures for procurement under 34 CFR Parts 74.40 - 74.48 and Part 80.36.

*Assessment literacy training series*

- Purpose: The Kentucky Department of Education will hire contractors to provide training to every District Assessment Coordinator through face-to-face meetings and webinars as described in section (B)(3)
- Products and professional services included in this procurement: Development and facilitation of training sessions on new balanced assessment system (both in-person and via webinar) for all District Assessment Coordinators statewide
- Cost per procurement and time to be devoted to this project: \$25,000 over four years (\$10,000 in Year 1, \$5,000 in Years 2, 3, and 4)

*Educators' Online Learning Series*

- Purpose: The Kentucky Department of Education will hire a contractor to develop online courses for educators to access during Summer 2010, e.g., "Introduction to KY's New Math and English/Language Arts Standards," "Deconstructing the New Standards," "Assessment Literacy," and "Interactive Teaching and Learning"
- Products and professional services included in this procurement: Development of online courses for educators
- Cost per procurement and time to be devoted to this project: \$20,000

*Refocus Instructional Support Network*

- Purpose: The Kentucky Department of Education will hire a contractor to facilitate the refocusing of the existing Instructional Support Network so that it includes all P-16 instructional leaders (i.e., university staff, Educational Cooperatives, and other partners)
- Products and professional services included in this procurement:

## Kentucky Race to the Top Application: Budgets & Budget Narratives

- Review of current Instructional Support Network infrastructure
- Plan for expansion and refocusing of this Network
- Cost per procurement and time to be devoted to this project: \$50,000 for a short-term project (likely 1 month)

### *Professional learning for postsecondary education faculty*

- Purpose: The Council for Postsecondary Education will facilitate professional learning for postsecondary education faculty to ensure all understand the new standards and assessments.
- Products and professional services included in this procurement:
  - Development and facilitation of professional learning for postsecondary education faculty on the new standards and assessments
- Cost per procurement and time to be devoted to this project: \$3,000,000

### *Evaluation of the network approach to professional learning*

- Purpose: The Kentucky Department of Education will hire an external researcher to evaluate the effectiveness of the network approach to professional learning
- Products and professional services included in this procurement: Robust evaluation of new network-based approach to professional learning
- Cost per procurement and time to be devoted to this project: \$300,000 over three years (Project Years 2-4)

### *Public engagement*

- Purpose: The Prichard Committee will undertake a broad-based public awareness and engagement effort, including parent and community engagement around Senate Bill 1
- Products and professional services included in this procurement: Campaign may include:
  - Informational advertisements (paid, as opposed to public service announcements) for commercial and cable broadcast
  - Information distribution via social media
  - Meeting and conference presentations
  - One-day workshops

## Kentucky Race to the Top Application: Budgets & Budget Narratives

- Intensive leadership training institutes for parents
- Advocacy training for teachers
- Dedicated Web sites
- Print advertisements for statewide distribution
- Print materials
- Public appearances
- Outreach to new and traditional media
- Cost per procurement: \$1,500,000

### *AdvanceKentucky*

- Purpose: The Kentucky Department of Education will work with the AdvanceKentucky program to expand its current program by about 10 schools each year
- Products and professional services included in this procurement:
  - Expansion of program to additional schools each year
  - Partnership with local districts and schools where program is implemented
  - Measurement of program's success in terms of student outcomes
  - See the (B)(3) reform plan for more detail on AdvanceKentucky
- Cost per procurement and time to be devoted to this project:
  - Year 1: \$246,875
  - Year 2: \$418,750
  - Year 3: \$590,625
  - Year 4: \$1,015,625
  - Annual amounts listed above are estimates of what the Race to the Top award would cover (a total of \$2,271,875 over four years, which is approximately 50% of total costs of this program); all additional costs of this program will be covered by grants from LEAs' subgrants, philanthropy, local district funding, and other sources of existing or repurposed funding

### *Project Lead The Way*

- Purpose: The Kentucky Department of Education will work with the Project Lead The Way program to expand its current program by about 80 schools each year

## Kentucky Race to the Top Application: Budgets & Budget Narratives

- Products and professional services included in this procurement:
  - Expansion of program to additional schools each year
  - Partnership with local districts and schools where program is implemented
  - Measurement of program's success in terms of student outcomes
  - See the (B)(3) reform plan for more detail on Project Lead The Way
- Cost per procurement and time to be devoted to this project: \$4,120,000 over four years, which is 25% of total costs of this program; all additional costs of this program will be covered by grants from LEAs' subgrants, philanthropy, local district funding, and other sources of existing or repurposed funding

### *Kentucky Virtual School*

- Purpose: The Kentucky Department of Education will increase the number of rigorous courses available through the Kentucky Virtual School by 6 courses each year for four years, adding an additional 24 courses by 2014
- Products and professional services included in this procurement:
  - Development of content for additional courses, collaborating with statewide networks that are working on deconstructing the new standards and developing instructional tools
  - Programming of the online courses
- Cost per procurement and time to be devoted to this project: \$5000 for each new course, totaling \$120,000 over four years  
The estimated cost for each additional course is based on the costs of the courses that have already been developed for the Kentucky Virtual School

### *Teacher residency model pilots*

- Purpose: The Kentucky Department of Education and the Education Professional Standards Board will work together to facilitate a Request for Proposal to select three partnerships between institutions of higher education and local districts to develop and pilot teacher residency programs
- Products and professional services included in this procurement:

## Kentucky Race to the Top Application: Budgets & Budget Narratives

- Strong partnership between institution of higher education and local district to develop Professional Learning Schools
- Development of curriculum / tasks for residency model
- Application process for residency model
- Summer immersion program
- Stipends for support teachers and students
- Agency and university support staff
- Evaluation of residency model as a means of preparing teachers to be more effective in impacting student learning
- Cost per procurement and time to be devoted to this project:
  - \$270,000 across three years for Professional Learning School development
  - \$340,000 across three years to pilot curriculum and summer immersion program
  - \$3,270,000 across three years for stipends and support staff for pilots
  - \$200,000 for evaluation
  - Total of \$4,080,000 will be covered by the Race to the Top grant award, with ongoing maintenance and operations covered by participants' tuition, the institutions of higher education, and local district partners

### **Line item 10: Indirect Costs**

- Kentucky's indirect cost rate, as stipulated in Kentucky's Indirect Cost Rate Agreement (approved by the U. S. Department of Education), is 14.1%
- This rate applied to the direct costs for Personnel, Fringe Benefits, Travel, and Supplies for this project comes to ~\$1.0M in indirect costs

### **Line item 12: Supplemental Funding for Participating LEAs**

#### *Developing professional learning teams*

- Purpose of supplemental funding: Because school-based professional learning teams are critical for the implementation of Kentucky's network-based approach to professional learning, the Kentucky Department of Education will select 60 districts to receive mini-grants to hire consultants to support implementation of local professional learning teams

Kentucky Race to the Top Application: Budgets & Budget Narratives

(likely facilitators who have been trained in the *Classroom Assessment for Student Learning* model described in (B)(3))

- Cost detail:

<i>Activity</i>	<i>Cost</i>	<i># of LEAs</i>	<i>Annual total</i>
Additional training for school leaders (e.g., master teachers, principals, etc.) to implement professional learning teams at their schools	\$6000	60	\$360,000

- The costs described above are one-time allocations to the LEAs who will receive this award; the total of \$360,000 will be charged to the Race to the Top grant in Year 1 and will be augmented by local district funding to support professional learning teams on an ongoing basis
- These cost estimates are based off of Kentucky’s prior work to establish professional learning teams

**Project #2: Statewide longitudinal data system**

<b>Budget Part II: Project-Level Budget Table</b> <b>Project Name: Statewide longitudinal data system</b> <b>Associated with Criteria: (C)(2)</b> <b>(Evidence for selection criterion (A)(2)(i)(d))</b>					
Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total (e)
1. Personnel	\$0	\$0	\$0	\$0	\$0
2. Fringe Benefits	\$0	\$0	\$0	\$0	\$0
3. Travel	\$10,000	\$15,000	\$15,000	\$0	\$40,000
4. Equipment	\$262,417	\$787,250	\$0	\$0	\$1,049,666
5. Supplies	\$464,000	\$3,374,000	\$2,299,000	\$0	\$6,137,000
6. Contractual	\$2,150,000	\$4,424,000	\$4,541,000	\$0	\$6,555,000
7. Training Stipends	\$0	\$12,000	\$12,000	\$0	\$24,000
8. Other	\$0	\$0	\$0	\$0	\$0
9. Total Direct Costs (lines 1-8)	\$1,796,417	\$6,832,250	\$5,177,000	\$0	\$13,805,667
10. Indirect Costs*	\$66,834	\$477,849	\$326,274	\$0	\$870,957
11. Funding for Involved LEAs	\$0	\$0	\$0	\$0	\$0
12. Supplemental Funding for Participating LEAs	\$0	\$0	\$0	\$0	\$0
13. Total Costs (lines 9-12)	\$1,863,251	\$7,310,099	\$5,503,274	\$0	\$14,676,624
<i>Note: Calculations were conducted in a separate spreadsheet. Due to rounding, there may be small errors in the figures above.</i>					

## **Project #2: Statewide longitudinal data system**

This budget includes the costs associated with the expansion of the Kentucky Statewide Longitudinal Data System (KY SLDS) and access to and use of KY SLDS data, as described in the reform plan in section (C)(2). Kentucky submitted an application for the ARRA SLDS grant in December 2009. Given the highly competitive nature of the ARRA SLDS grant, following guidance from USED as relayed in the Race to the Top FAQ item M-4, Kentucky has included the work and costs from the ARRA SLDS grant proposal in the Project 2 budget. All costs for this project are described in detail below, totaling ~\$19.7M.

The following activities are the primary cost drivers within this project:

- Expanding the Kentucky Statewide Longitudinal Data System to include data from the Council on Postsecondary Education and the Education Professional Standards Board, early childhood data, and student financial aid and workforce data, as well ensuring effective data governance and data quality
- Improving accessibility to longitudinal data by providing role-based access to all stakeholders and improving the reports the Kentucky Department of Education (“the Department”) produces
- Developing and implementing high-quality professional learning opportunities for stakeholders around how to access and use longitudinal data to improve student outcomes

The State plans to fund this work over the next four years with its portion of the Race to the Top award and the ARRA SLDS award should Kentucky be awarded those grants. Kentucky does not expect Participating LEAs to fund the statewide longitudinal data system development; however, Participating LEAs may augment State-provided training with additional local training related to data access and use.

All direct costs for this project fall under one of the following categories: “Personnel,” “Fringe benefits,” “Travel,” “Equipment,” “Supplies,” “Contractual,” and “Training Stipends,” with the remaining costs falling within “Indirect Costs.” The costs described in detail below explain the portions of the State’s work that the Race to the Top grant award would fund.

**Line item 1: Personnel**

*SLDS Executive Director*

- Purpose / description: The Executive Director for the project will be identified from current staff and dedicated for a duration of 3 years at an estimated cost of \$92,000 per year, using 100% local funds. This will be a key role in determining the direction and ensuring success of the SLDS. This person will need the knowledge and support of all parties involved. .

**Line item 2: Fringe benefits**

*SLDS Executive Director*

- N/A

**Line item 3: Travel**

*General and administrative travel*

- Purpose / description: Travel required by project staff to elicit and capture project requirements, facilitate and oversee project execution activities and to gather feedback from user communities for reporting purposes, and travel required to initiate an ongoing online training program by first holding face to face and training and community-building sessions within each of 8 regional centers. These initial trainings will be provided to 3 persons from each district.
- Costs: In year one \$10,000 will be allocated for necessary travel expenses, and in years two and three this expense is estimated to increase to \$15,000 per year to accommodate the increased travel requirements associated with marketing and training for partners and stakeholders. Total for three years is \$40,000

**Line item 4: Equipment**

Note: All nonexpendable personal property items with an acquisition cost of \$5,000 or more are classified as Equipment. So are tracked items with an acquisition cost under \$5,000, such as personal computers; however, these are to be expensed at time of purchase.

*Hardware*

Equipment needs have been estimated based on the following six out of the nine workstreams which will need additional hardware: identity management, state data audit system, re-engineering existing feeder systems, new data and reports, user accessible metadata repository, and technical training. With regard to server costs specifically, all Department server estimates are based on IBM 3650's of varying configurations. Hardware needs total \$1,049,666 are broken down as follows:

- Identity management – 26 servers; 3 direct attached storage devices, 1 router switch, and 1 load balancer totaling (Total \$230,231)
- State Data Audit System – 7 servers (Total \$37,001)
- Re-engineering Existing Feeder Systems – 39 servers and workstations, 2 direct attached storage devices, 3 blade enclosures, and other equipment (Total \$ \$576,757)
- New data and Reports – 19 servers, 1 direct attached storage device, 1 router switch, and 1 load balancer (Total \$161,430)
- Metadata Repository – 5 servers (Total \$25,099)
- Technical training – 4 servers (Total \$19,148)

In year one 25% of hardware budget will be expended with the remainder being expended in year two.

**Line item 5: Supplies / software**

*General administrative supplies*

- Purpose / description: General and administrative supplies are estimated to be \$4,000 per year and will be prorated among the participating agencies depending upon the need for additional resources to support the project.
- An additional \$10,000 in year one, and \$20,000 in each of the remaining two years of the project will be used for the production and printing of training materials and information packets.
- Cost: \$62,000

*Data model software modified/purchased/built*

- Purpose / description: In the first year of the project the data model software will be modified, purchased or built to include the new data sources, estimated to cost \$250,000 the first year and \$150,000 in each of the final two years with Kentucky absorbing 50% of the cost of year three (\$75,000)
- Cost: \$250,000 in Year 1, \$150,000 in Year 2, and \$75,000 in Year 3 for a total of \$475,000

*Additional software licenses for partners (e.g., the Council on Postsecondary Education and the Education Professional Standards Board)*

- Purpose / description: Additional software licenses; including the business intelligence software, will be required as new partners are incorporated into the Collaborative. \$100,000 in year one and \$200,000 in year two and three
- Cost: \$500,000

*Application level software*

- Purpose / description: It is estimated that in year one \$100,000 will be spent on application level software including, but not limited to, applications such as SQL Server, ASP, IIS, etc. Associated costs for identity management software in year two is estimated to be \$3 million and in year three \$2 million.
- Cost: \$5.1M

**Line item 6: Contractual**

Note: Kentucky has followed the procedures for procurement under 34 CFR Parts 74.40 - 74.48 and Part 80.36.

The total amount requested for contractual expenditures is \$6,555,000. Of this total, \$1,060,000 is estimated to be expended in year one, \$2,644,000 in year two, and \$2,851,000 in year three. Contractual costs are made up of two general areas: contractual 3rd party vendor costs, and contractual personnel costs. For contractual 3rd party vendor needs, vendors will be engaged for professional services for the data audit review, training development and delivery, and physical

hosting services provided by the Commonwealth Office of Technology or similar entity. These costs are estimated to total \$1,170,000. Additionally, researchers will be utilized as needed to provide conceptual and methodological assistance in the combining of data and the generating reports, but these will be funded locally. For contractual personnel needs, Kentucky will contract with technical resource personnel as necessary for implementing the various work streams described in the project narrative. Care has been taken to budget for these FTEs only when their work is actually anticipated as reflected in the yearly budget figures. Estimates for 3rd party vendor services are based on a time and materials model and include roles at a fully burdened contractor rate of \$120,000 per year. These costs are estimated to total \$5,385,000.

*Project Manager (3)*

- The scope of the effort will require multiple Project Managers. The Project Manager's responsibilities will include overseeing and helping to ensure that the activities associated with the portion of the project they are assigned to are completed on time within budget and adhere to high quality standards that meet the Commonwealth's expectations. The scope of work demands three project managers, but only two will be funded via the grant.
- The initial, and primary, Project Manager will be responsible for overseeing the advance planning and focus group design and implementation of the overall project. After initial start-up activities, in year one, this person's duties and will shift to focus more on overseeing the re-engineering and updating of existing P-12 feeder systems. Duties will also include responsibility for enhancement of the KY KSLDS and assistance as needed for the second and third project managers. This person will be funded locally.
- The second and third Project Managers will be hired in the second quarter of the first year. The second Project Manager will be directly responsible for the identity management design and implementation workstream and will remain assigned to this work stream through to the end of the project. The third Project Manager will initially concentrate on the state data audit system, and then transition to the development and implementation of the comprehensive training capability and to oversee the feeder system re-engineering at Education Professional Standards Board and the Council on Post Secondary Education. This person will remain assigned to these work streams through to the end of the project.

## Kentucky Race to the Top Application: Budgets & Budget Narratives

- The total amount requested for project management expenditures is \$540,000. Of this total, \$60,000 is estimated to be expended in year one, \$240,000 in year two, and \$240,000 in year three.

### *Business Analysts (3)*

- As with the Project Management need, the scope of the effort will require multiple Business Analysts to effectively elicit, capture, and verify the business, functional, and technical requirements related to the work streams that make up the project.
- Also like the Project Management need, the primary Business Analyst will be an existing local resource. No grant funds will be used for this person. This individual will help elicit capture and analyze business requirements from focus group sessions in order to complete the initial advance planning phase of the project. This individual will then begin working to carry out the modification of existing P-12 feeder systems work and later the addition of new data sources work as well as with the second and third Business Analysts, as needed.
- The second Business Analyst will be assigned to the identity management work stream and will be hired in the 3rd quarter of year one.
- The third business analyst will also be hired in the 3rd quarter of year one and work specifically with the one-time data audit and then later, focus on the establishment of the state data audit system. Additionally, this individual will focus on the feeder system re-engineering at Education Professional Standards Board and the Council on Post Secondary Education.
- The total amount requested for business analysis expenditures is \$540,000. Of this total, \$60,000 is estimated to be expended in year one, \$240,000 in year two, and \$240,000 in year three.

### *Data Analysts (3)*

- At the beginning of year one of the project one Data Analyst will be hired to work specifically with the planning and focus group processes and then shift focus to the re-engineering and new data reports work streams of the project. This individual will

become a permanent member of the KY SLDS staff and Kentucky will absorb 25% of this individual's salary in the third year of the grant

- A second Data Analyst will be brought on board in the 3rd quarter of the first year to specifically address the one time data audit and establishment of the state data audit system. This individual will also become a permanent member of the KY SLDS and Kentucky will absorb 25% of the salary in year three.
- The third data analyst will be hired for years two and three and will work specifically with the metadata repository.
- Year one costs \$150,000; Year two costs \$360,000; Year three costs \$300,000.

*Database Administrator (3)*

- In the 1st quarter of year two a database administrator will be hired to work on the re-engineering of feeder systems and the creation of new data reports.
- In the 2nd quarter of year two a second database administrator will be brought on board to work specifically on the state data audit system.
- A third database administrator will come on board at the beginning of the project with CPE to assist with the internal re-alignment and consolidation of CPE and KYAE's databases.
- Year one costs \$120,000; Year two costs \$330,000; Year three costs \$360,000.

*Application Developers (2)*

- Two application developers are needed to help re-engineer data collection at each agency in order to prepare the additional feeder systems and incorporate the data into the KY SLDS. These positions will begin during the 3rd quarter of year one and be held for years 2 and 3 of the grant.
- Year one costs \$180,000. Year two costs \$360,000. Year three costs \$360,000.

*Report Developers (2)*

- Two report developers will be needed beginning in year two to address reports for the new data being collected within the KY SLDS. One of the report developers will shift focus in the 3rd quarter of year two to work specifically with the state data audit system.

## Kentucky Race to the Top Application: Budgets & Budget Narratives

- Year one costs \$0; Year two costs \$240,000; Year three costs \$240,000.

### *Trainers (2)*

- A training coordinator will be hired, at a rate of \$75,000 per year, in year two to lead the comprehensive KY SLDS training which will be developed by an outside vendor. The training coordinator will be responsible for providing comprehensive training to regional training facilitators (*see Training Stipends section*)
- In year two, a technical trainer, hired at a rate of \$60,000 per year will also be needed to provide training for the ad hoc reporting tool and will also work with the outside vendor designing the training.
- Year one \$0 Year two costs \$135,000; Year three costs \$135,000

### *Implementation Support (1)*

- It is anticipated that a designated implementation support person will need to be available to assist with troubleshooting and leading test efforts on the project.
- Year one costs \$60,000; Year two costs \$60,000; Year three costs \$60,000

### *Mainframe Developer (1)*

- A mainframe developer is needed to write the interface of the Workforce Development's feeder systems and new data and report work and will be hired in the 3rd quarter of year one.
- Year one costs \$30,000; Year two costs \$120,000; Year three costs \$120,000.

### *ETL Developer (2)*

- Two ETL developers will be needed beginning in year two of the overall project. These positions will support the extraction of new data and reports and will be assigned to the state data audit system development and implementation. These developers will become permanent KY SLDS staff and Kentucky will pay 25% of their salary in year three of the project.
- Year one costs \$240,000; Year two costs \$240,000; Year three costs \$240,000.

Kentucky Race to the Top Application: Budgets & Budget Narratives

*Systems Analysts (1)*

- The systems analyst will be brought on board in the 3rd quarter of year one and will remain through the completion of the project. This individual's work will focus on updating and re-engineering of the feeder systems and the state data audit system.
- Year one costs \$60,000. Year two costs \$120,000. Year three costs \$120,000.

*Help Desk Personnel (1)*

- The implementation of the electronic certification system will require a temporary increase in help desk personnel to assist educators with logins and other technical assistance. This position will be held in the third year of the grant.
- Year one costs \$0. Year two costs \$0. Year three costs \$75,000.

*Detailed table with contractual detail:*

<b>Contractor position</b>	<b>Details</b>	<b>Total Year 1</b>	<b>Total Year 2</b>	<b>Total Year 3</b>	<b>TOTAL</b>
Project Manager 1	(Advance & overall Planning, Data Source re-engineering, New KSLDS Data & Rpts). Transition 25% of salary to operations in Year 3. Locally funded.	\$ 0	\$ 0	\$ 0	\$0
Project Manager 2	(Begin Yr 1, Q3, Identity Mngt)	\$ 30,000	\$ 120,000	\$ 120,000	\$270,000
Project Manager 3	(Begin Yr 1, Q3, One Time Audit, then State Audit System along w/ Comprehensive KSLDS Training effort).	\$ 30,000	\$ 120,000	\$ 120,000	\$270,000
BA 1	(Advance & overall Planning, Data Source re-engineering, New KSLDS Data & Rpts). Locally funded.	\$ 0	\$ 0	\$ 0	\$0
BA 2	(Begin Yr 1, Q3, Identity Mngt)	\$ 30,000	\$ 120,000	\$ 120,000	\$270,000
BA 3	(Begin Yr 1, Q3, One Time Data Audit, then, Data Audit QA system)	\$ 30,000	\$ 120,000	\$ 120,000	\$270,000
Data Analyst 1	(Begin Yr 1, remain through project. Position initially focuses on planning and focus group requirements phase, then shifts to re-engineering of existing systems, and then shifts to the and new data and reports phase. Transition 25% of salary to operations in year 3.)	\$ 120,000	\$ 120,000	\$ 90,000	\$330,000
Data Analyst 2	(Begin Yr 1 Q3, remain through	\$ 30,000	\$ 120,000	\$ 90,000	\$240,000

Kentucky Race to the Top Application: Budgets & Budget Narratives

	project. Position initially focuses on the one time audit of KSLDS processes and data, and then shifts to the ongoing data audit system work. Transition 25% of salary to operations in year 3.)				
Data Analyst 3	(Begin Yr 2, remain through project. Position focuses solely on user accessible metadata repository work.)		\$ 120,000	\$ 120,000	\$240,000
Database Administrator 1	(Work on reengineering of feeder systems – same person moves to new data reports work ).		\$ 120,000	\$ 120,000	\$240,000
Database Administrator 2	(State data audit system, begins year 2, second quarter)		\$ 90,000	\$ 120,000	\$210,000
Database Administrator 3, (CPE)		\$ 120,000	\$ 120,000	\$ 120,000	\$360,000
Application Developer 1		\$ 60,000	\$ 120,000	\$ 120,000	\$300,000
Application Developer 2		\$ 60,000	\$ 120,000	\$ 120,000	\$300,000
Report Developer 1	(New Data and Reports, begins year 2)		\$ 120,000	\$ 120,000	\$240,000
Report Developer 2	(New Data and Reports, begins year 2)		\$ 120,000	\$ 120,000	\$240,000
Training Coordinator	(Focus on comprehensive training, begin Yr 2)		\$ 75,000	\$ 75,000	\$150,000
Technical Trainer	(Technical training for ad hoc reporting tool – working with outside vendor who develops training. Begins Yr 2)		\$ 60,000	\$ 60,000	\$120,000
Mainframe Developer	(Focus initially on re-engineering of existing feeder systems, then transition to new data and reports), Begin Yr 1, Q3, remain for rest of project)	\$ 30,000	\$ 120,000	\$ 120,000	\$270,000
ETL Developer 1	(Focus on new data and reports. Begin Yr 2)	\$ 120,000	\$ 120,000	\$ 120,000	\$360,000
ETL Developer 2	(Focus on new data and reports. Begin Yr 2)	\$ 120,000	\$ 120,000	\$ 120,000	\$360,000
Systems Analyst 1	(Initially focuses on one time audit of data and processes, then transitions to state data audit system work. Begins Yr 1 Q3).	\$ 30,000	\$ 120,000	\$ 120,000	\$270,000
Help Desk		\$ -	\$ -	\$ 75,000	\$75,000
Physical Hosting, Operating		\$ -	\$ 204,000	\$ 366,000	\$570,000

Kentucky Race to the Top Application: Budgets & Budget Narratives

Systems, Patching, Monitoring					
Professional Services for Data Audit		\$ 250,000			\$250,000
Professional Services for Training Development		\$ -	\$ 175,000	\$ 175,000	\$350,000
TOTALS		\$ 1,060,000	\$ 2,644,000	\$ 2,851,000	\$6,555,000

**Line item 7: Training Stipends**

- Training on the local education association level on the use of the KY SLDS will be facilitated in year two and three by 10 independent trainers located within the districts and universities. These trainers will conduct up to 4 face-to-face or on-line training sessions for district technology coordinators and school administrators during years two and three of the grant at a cost of \$24,000 based on a rate of \$300 per day.

**Line item 10: Indirect Costs**

- Kentucky’s indirect cost rate, as stipulated in Kentucky’s Indirect Cost Rate Agreement (approved by the U. S. Department of Education), is 14.1%
- This rate applied to the direct costs for Personnel, Fringe Benefits, Travel, and Supplies for this project comes to ~\$870,000 in indirect costs

**Project #3: Continuous instructional improvement technology system**

<b>Budget Part II: Project-Level Budget Table</b> <b>Project Name:</b> Continuous Instructional Improvement Technology System (CIITS) <b>Associated with Criteria:</b> (C)(3) <b>(Evidence for selection criterion (A)(2)(i)(d))</b>					
Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total (e)
1. Personnel	\$337,500	\$675,000	\$337,500	\$724,500	\$1,350,000
2. Fringe Benefits	\$101,250	\$202,500	\$101,250	\$217,350	\$405,000
3. Travel	\$84,375	\$84,375	\$0	\$0	\$168,750
4. Equipment	\$230,231	\$0	\$0	\$0	\$230,231
5. Supplies	\$2,000	\$2,000	\$2,000	\$2,000	\$8,000
6. Contractual	\$1,003,000	\$1,066,000	\$836,000	\$686,000	\$3,591,000
7. Training Stipends	\$0	\$0	\$0	\$0	\$0
8. Other	\$0	\$0	\$0	\$0	\$0
9. Total Direct Costs (lines 1-8)	\$1,758,356	\$2,029,875	\$1,276,750	\$688,000	\$5,752,981
10. Indirect Costs*	\$74,043	\$135,906	\$62,146	\$282	\$272,377
11. Funding for Involved LEAs	\$0	\$0	\$0	\$0	\$0
12. Supplemental Funding for Participating LEAs	\$0	\$0	\$0	\$0	\$0
13. Total Costs (lines 9- 12)	\$1,832,399	\$2,165,781	\$1,338,896	\$688,282	\$6,025,358
<i>Note: Calculations were conducted in a separate spreadsheet. Due to rounding, there may be small errors in the figures above.</i>					

**Project #3: Continuous instructional improvement technology system**

This budget includes the costs associated with the development and implementation of the Continuous Instructional Improvement Technology System (CIITS), as described in the reform plans in section (C)(3) (*with relevant additional description in (B)(3) and (C)(5)*). Through the CIITS every teacher and principal will have access to data on their students' learning and achievement, data on their own professional growth, and a variety of resources for curriculum, assessments, instruction, professional learning, and school improvement at their fingertips. The costs of this work to the State that would be covered by a Race to the Top grant award are ~\$6M and are described below. The Kentucky Department of Education ("the Department") will use RTTT dollars to fund the development of the system and high-quality professional learning, and LEAs will use part of their allocations to implement the system across every classroom and school.

The following activities are the primary cost drivers within this project:

- Developing the Continuous Instructional Improvement Technology System infrastructure and the content to be integrated into the system (e.g., resources to deconstruct the standards)
- Developing professional learning opportunities / content for teachers and principals in accessing and using the CIITS and providing personnel at the regional networks to lead the implementation of this work
- Funding researchers / evaluators to access and use data from the CIITS and KY SLDS to identify effective practices in educating all of our students

It is the State's expectation that a large portion of Participating LEAs' subgrants will be utilized for the activities included in this project. In particular, LEAs will be responsible for using their subgrants to pay for their licenses to use the CIITS system once it is developed. Furthermore, LEAs will cover the costs associated with sending representatives to network meetings, establishing strong professional learning teams at every school, and providing ongoing, effective teacher and principal professional learning.

All direct costs for this project fall under one of the following categories: “Personnel,” “Fringe benefits,” “Travel,” “Equipment,” “Supplies,” and “Contractual,” with the remaining costs falling within “Indirect Costs.” The costs described in detail below explain the portions of the State’s work that the Race to the Top grant award would fund.

**Line item 1: Personnel**

*Project sponsor*

- Purpose / description: the Project Sponsor will be the principal director for the implementation of the continuous improvement system; accept and sign off on all project deliverables and reports; determine when business processes should change; have authority to enact required changes; determine whether the project implementation is meeting expectations. This position will be funded locally.

*Administrative assistant*

- Purpose / description: the Administrative Assistant will help the project sponsor and the Department project team by maintaining schedules, setting up meetings, creating purchase requests, and other duties as assigned. This position will be funded locally.

*CIITS Implementation Coordinators*

- Purpose / description: The Implementation Coordinator in each region will be staff of the Kentucky Department of Education and will lead, in partnership with Educational Cooperative staff, postsecondary education faculty, and content area experts, the network-based implementation of the CIITS.
- The base salary for this position is \$75,000, and there will be one Implementation Coordinator in each of the nine networks, or 9 Implementation Coordinators total. These are two-year positions, beginning in Q3 of Year 1, totaling \$1,350,000 that will be charged to a potential Race to the Top grant award. As these positions reach the end of their expected duration, implementation questions will be handled via existing helpdesk staff.

**Line item 2: Fringe benefits**

*Implementation coordinators*

- Implementation Coordinator fringe benefits – with a fringe benefit percentage of 30% applied to the salary costs for 9 Implementation Coordinators for two-year terms as noted above, the total fringe benefit cost is \$405,000 that will be charged to the potential Race to the Top grant award.

**Line item 3: Travel**

*Training*

- Purpose / description: Travel provided to staff from 8 regional centers and Jefferson County Public Schools for initial face-to-face training on the Continuous Instructional Improvement Technology System. 5 staff from each will participate in an ongoing series of training in order to become proficient not just in using the system, but to use it in order to impact instruction and improvement at the student, educator, and administrator levels.
- Number of trips and costs: 25 x 45 people will attend; each trip will cost \$150 totaling \$168,750 during the last half of Year 1 and first half of Year 2.

**Line item 4: Equipment**

Note: All nonexpendable personal property items with an acquisition cost of \$5,000 or more are classified as Equipment. So are tracked items with an acquisition cost under \$5,000, such as personal computers; however, these are to be expensed at time of purchase.

*Hardware*

Hardware needs totaling \$230,231 are broken down as follows:

- Servers required for Web, Application and Database - \$6,000 per server for 26 servers totaling \$156,910 in Year 1 only
- Load Balancers, Switch Router Cards - \$25,621 in Year 1 only
- Direct Attached Storage Devices (250 GB HDD) - \$15,900 per storage device for 3 storage devices totaling \$47,400 in Year 1 only

**Line item 5: Supplies**

*General administrative supplies*

- Purpose / description: Includes office supplies such as pens, paper, binders, etc.
- Cost: Estimated to be in the amount of \$2,000/year which may vary depending on the amount needed to support the project, for four years totaling \$8,000

**Line item 6: Contractual**

Note: Kentucky has followed the procedures for procurement under 34 CFR Parts 74.40 - 74.48 and Part 80.36.

*Vendor Management and Oversight Services*

- Products and professional services included in this procurement: Project Management; communication and client engagement including working with the Department project management and staff; business analysis
- Cost: \$450,000 in Years 1 and 2, \$300,000 in Year 3, and \$150,000 in Year 4 totaling \$1,350,000

*Vendor Development Services*

- Products and professional services included in this procurement: Integration services for system and data; product customization and/or new development
- Cost: \$115,000 in Year 1, \$100,000 in Year 2, and \$20,000 in Years 3 and 4 totaling 255,000

*Hosting*

- Products and professional services included in this procurement: Physical hosting operations support and system software upgrades. 1st year represents half planned hardware.
- Cost: \$78,000 in Year 1, then \$156,000 in Years 2, 3, and 4 totaling \$546,000

*Kentucky Department of Education Project Manager*

- Purpose / description: the Department project manager will represent KDE's interests; observe and maintain project schedule, budget, scope; interact with vendor project

## Kentucky Race to the Top Application: Budgets & Budget Narratives

manager; ensure effective communication with Department leadership regarding project implementation; provide regular status reports; escalate issues

- Cost: \$120,000 per year for four years totaling \$480,000

### *Kentucky Department of Education Business Analyst*

- Purpose / description: the Department business analyst will work with stakeholders to develop and finalize requirements and design; review and suggest new policies or updates to existing policies; coordinate stakeholder and content area involvement in all aspects of the project
- Cost: \$120,000 per year for four years totaling \$480,000

### *Kentucky Department of Education Project Manager*

- Purpose / description: Day-to-day owner of non-IT aspects of the business program; primary spokesperson and communicator of the application business vision; advises project sponsor regarding acceptance and approval of project deliverables; determines business rules, functional requirements and system priorities
- Cost: \$120,000 per year for four years totaling \$480,000

### **Line item 10: Indirect Costs**

- Kentucky's indirect cost rate, as stipulated in Kentucky's Indirect Cost Rate Agreement (approved by the U. S. Department of Education), is 14.1%
- This rate applied to the direct costs for Personnel, Fringe Benefits, Travel, and Supplies for this project comes to ~\$0.6M in indirect costs

**Project #4: Effective Teachers and Leaders**

<b>Budget Part II: Project-Level Budget Table</b> <b>Project Name: Effective Teachers and Leaders</b> <b>Associated with Criteria: (D)(2) &amp; (D)(3)</b> <b>(Evidence for selection criterion (A)(2)(i)(d))</b>					
Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total (e)
1. Personnel	\$75,000	\$75,000	\$675,000	\$675,000	\$1,500,000
2. Fringe Benefits	\$22,500	\$22,500	\$202,500	\$202,500	\$450,000
3. Travel	\$0	\$0	\$0	\$0	\$0
4. Equipment	\$0	\$0	\$0	\$0	\$0
5. Supplies	\$0	\$0	\$0	\$0	\$0
6. Contractual	\$485,000	\$5,333,080	\$1,716,160	\$1,839,240	\$9,373,480
7. Training Stipends	\$0	\$0	\$0	\$0	\$0
8. Other	\$0	\$0	\$0	\$0	\$0
9. Total Direct Costs (lines 1-8)	\$582,500	\$5,430,580	\$2,593,660	\$2,716,740	\$11,323,480
10. Indirect Costs*	\$13,746	\$13,748	\$123,728	\$123,728	\$274,951
11. Funding for Involved LEAs	\$0	\$0	\$0	\$0	\$0
12. Supplemental Funding for Participating LEAs	\$0	\$1,200,000	\$1,200,000	\$1,200,000	\$3,600,000
13. Total Costs (lines 9-12)	\$596,246	\$6,644,328	\$3,917,388	\$4,040,468	\$15,198,431
<i>Note: Calculations were conducted in a separate spreadsheet. Due to rounding, there may be small errors in the figures above.</i>					

### **Project #4: Effective Teachers and Leaders**

This budget includes the costs associated with Kentucky's plans to increase the effectiveness of teachers and principals statewide, including the development and implementation of new teacher and principal evaluation systems based on growth models that include multiple measures of effectiveness. With the generous support of the Wallace Foundation, Kentucky's work in this area has already begun. The Race to the Top grant award will accelerate this work and enable Kentucky to make significant progress with the plans described in sections (D)(2) and (D)(3). The State's total budget for Project 4 is ~\$15.2M, comprised of the costs detailed below.

All direct costs for this project fall under the "Personnel," "Fringe Benefits," and "Contractual" categories, with the remaining cost falling within "Indirect Costs" and "Supplemental Funding for Participating LEAs." The costs described in detail below explain the portions of this work that the Race to the Top grant award would fund. These are primarily for the development and initial trials and rollout of the growth models and evaluation systems. However, much of the local professional learning work described in the plans will be covered by LEAs' existing funds allocated toward professional learning and teacher and principal evaluation.

#### **Line item 1: Personnel**

##### *Teacher and principal effectiveness Implementation Coordinators*

- Purpose: The Implementation Coordinator in each region will be staff of the Kentucky Department of Education and will lead, in partnership with Educational Cooperative staff, postsecondary education faculty, and content area experts, the network-based implementation of the new teacher and principal effectiveness initiatives.
- The base salary for this position is \$75,000, and there will be one Implementation Coordinators in each of the nine networks, or 9 Implementation Coordinators total. In the first two years KDE will utilize three existing staff members adding only one additional coordinator. All nine coordinators will be in place in the third year to support the growth and capacity of the project. These are four-year positions, totaling \$1,500,000 that will be charged to a potential Race to the Top grant award.

**Line item 2: Fringe benefits**

*Implementation Coordinators*

- The fringe benefit percentage is 30% to cover employee benefits. Applied to the total salary costs for one Implementation Coordinator in the first two years and nine Implementation Coordinators for the remaining two-year term as noted above, the total fringe benefit cost is \$450,000 that will be charged to the potential Race to the Top grant award.

**Line item 6: Contractual**

Note: Kentucky has followed the procedures for procurement under 34 CFR Parts 74.40 - 74.48 and Part 80.36.

*Creating teacher and principal indices*

- Purpose: The Kentucky Department of Education will hire contractors to develop the teacher and principal indices (i.e., creating the formulaic approach to rolling up the multiple measures into indices and four rating categories)
- Products and professional services included in this procurement:
  - Teacher indices / rubrics that show how multiple performance measures map to each of four rating categories
  - Principal indices / rubrics that show how multiple performance measures map to each of four rating categories
- Cost per procurement and time to be devoted to this project: \$100,000 in Year 1

*Scoring of teacher evaluations*

- Purpose: The Kentucky Department of Education will hire a contractor to conduct the scoring of the teacher evaluations. This contractor will have expertise in teacher evaluation processes and analysis.
- Products and professional services included in this procurement:
  - Scoring of the evaluations for each teacher utilizing the formula described in the line item above (“teacher indices”)

## Kentucky Race to the Top Application: Budgets & Budget Narratives

- Advisory services to the vendor that develops the Continuous Instructional Improvement Technology System so that eventually all teacher evaluation data is available through that system
- Cost per procurement and time to be devoted to this project: \$30 per teacher evaluated
  - Year 2: 15,000 teachers evaluated = \$450,000
  - Year 3: 30,000 teachers evaluated = \$900,000
  - Year 4: 45,000 teachers evaluated = \$1,350,000
  - Total of \$2,700,000 for teacher evaluation scoring during the developmental and rollout phases of this work to be covered by a Race to the Top award grant; ongoing costs of evaluation will be covered by local district and state funding for teacher effectiveness
- The estimate of \$30 per teacher was developed based on current estimates as part of the Wallace Foundation grant

### *Scoring of principal evaluations*

- Purpose: The Kentucky Department of Education will hire a contractor to conduct the scoring of the principal evaluations. This contractor will have expertise in principal evaluation processes and analysis.
- Products and professional services included in this procurement:
  - Scoring of the evaluations for each principal utilizing the formula described in the line item above (“principal indices”)
  - Advisory services to the vendor that develops the Continuous Instructional Improvement Technology System so that eventually all principal evaluation data is available through that system
- Cost per procurement and time to be devoted to this project: \$360 per principal evaluated
  - Year 2: 412 principals evaluated = \$148,080
  - Year 3: 824 principals evaluated = \$296,160
  - Year 4: 1,234 principals evaluated = \$444,240
  - Total of \$888,480 for principal evaluation scoring during the developmental and rollout phases of this work to be covered by a Race to the Top award grant;

## Kentucky Race to the Top Application: Budgets & Budget Narratives

ongoing costs of evaluation will be covered by local district and state funding for principal effectiveness

- The estimate of \$360 per principal was developed based on current estimates as part of the Wallace Foundation grant

### *Teach For America*

- Purpose: The Kentucky Department of Education will partner with Teach For America to expand alternative pathways into teaching in the hard to staff areas in rural Eastern Kentucky and in Jefferson County
- Products and professional services included in this procurement:
  - Beginning in 2011, 30 additional teachers each year for hard to staff positions in rural Eastern Kentucky
  - Beginning in 2013, 30 additional teachers each year for hard to staff positions in Jefferson County
- Cost per procurement and time to be devoted to this project:
  - Year 1: \$385,000
  - Year 2: \$385,000
  - Year 3: \$520,000
  - Year 4: \$1,045,000
  - Total of \$2,335,000 to be covered by Race to the Top grant award to launch the program; ongoing costs will be covered by local district and state funding
- Please see the (D)(3) reform plan narrative for more detail on the plan for Kentucky's partnership with Teach For America

### *Redevelop and reconstruct the Intern Management System*

- Purpose: The Education Professional Standards Board will hire a vendor to redevelop and reconstruct data collection on the Kentucky Teacher Intern Program and the Kentucky Principal Intern Program to inform future programmatic decisions. These data will be housed in the Intern Management System
- Products and professional services included in this procurement:

Kentucky Race to the Top Application: Budgets & Budget Narratives

- Purchasing of necessary hardware and software for the Intern Management System
- Analysis of the new growth model evaluation system data available, and integration of these data into the Intern Management System
- Cost per procurement and time to be devoted to this project:
  - \$3,140,000 for both the teacher and principal intern data collection. This total will be covered by the Race to the Top grant award, with the minimal ongoing costs covered by existing funds in the Education Professional Standards Board’s budget
  - \$1,210,000 to reconstruct the Intern Management System to streamline it with other data systems to be developed (*see (C)(2) and (C)(3) for more detail*)

**Line item 10: Indirect Costs**

- Kentucky’s indirect cost rate, as stipulated in Kentucky’s Indirect Cost Rate Agreement (approved by the U. S. Department of Education), is 14.1%
- This rate applied to the direct costs for Personnel, Fringe Benefits, Travel, and Supplies for this project comes to ~\$0.5M in indirect costs

**Line item 12: Supplemental Funding for Participating LEAs**

*Developing professional learning teams*

- Purpose of supplemental funding: The Kentucky Department of Education will develop a competitive grant program for districts to develop pilots for equitable distribution of highly-effective and effective teachers and principals
- Cost detail:

<i>Activity</i>	<i>Cost</i>	<i># of LEAs</i>	<i>Annual total</i>
Equitable distribution pilots (may include financial incentive programs, loan forgiveness, etc.)	\$300,000 per year	4	\$1,200,000

- The grants described above will be given for three years to selected Participating LEAs, totaling \$3,600,000 that will be charged to the Race to the Top grant over Years 2, 3, and

**Project #5: Effectiveness of teacher and principal preparation programs**

<b>Budget Part II: Project-Level Budget Table</b> <b>Project Name: Effectiveness of Teacher and Principal Preparation Programs</b> <b>Associated with Criteria: (D)(4)</b> <b>(Evidence for selection criterion (A)(2)(i)(d))</b>					
Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total (e)
1. Personnel	\$0	\$0	\$0	\$0	\$0
2. Fringe Benefits	\$0	\$0	\$0	\$0	\$0
3. Travel	\$0	\$0	\$0	\$0	\$0
4. Equipment	\$0	\$0	\$0	\$0	\$0
5. Supplies	\$0	\$0	\$0	\$0	\$0
6. Contractual	\$1,700,000	\$1,150,000	\$1,000,000	\$0	\$3,850,000
7. Training Stipends	\$0	\$0	\$0	\$0	\$0
8. Other	\$0	\$0	\$0	\$0	\$0
9. Total Direct Costs (lines 1-8)	\$1,700,000	\$1,150,000	\$1,000,000	\$0	\$3,850,000
10. Indirect Costs*	\$0	\$0	\$0	\$0	\$0
11. Funding for Involved LEAs	\$0	\$0	\$0	\$0	\$0
12. Supplemental Funding for Participating LEAs	\$0	\$0	\$0	\$0	\$0
13. Total Costs (lines 9-12)	\$1,700,000	\$1,150,000	\$1,000,000	\$0	\$3,850,000
<i>Note: Calculations were conducted in a separate spreadsheet. Due to rounding, there may be small errors in the figures above.</i>					

**Project #5: Effectiveness of teacher and principal preparation programs**

This budget includes the costs associated with the development of the Effective Educator Preparation Index (EEPI) and the Effective Principal Preparation Index (EPPI) for teacher and principal preparation programs, as described in the reform plans in section (D)(4). All costs for this project fall under the “Contractual” category, and are described in detail below. The Race to the Top grant award would fund the development and trial period of the tools described in (D)(4), with the ongoing costs covered by the Education Professional Standards Board’s budget. The State’s total budget for Project 5 to be covered by Race to the Top is ~\$3.9M.

**Line item 6: Contractual**

Note: Kentucky has followed the procedures for procurement under 34 CFR Parts 74.40 - 74.48 and Part 80.36.

*Development of the Effective Educator Preparation Index for teacher preparation programs*

- Purpose: Kentucky’s Education Professional Standards Board will procure a vendor(s) to develop an Effective Educator Preparation Index that measures the effectiveness of teacher preparation programs as described in section (D)(4)
- Products and professional services included in this procurement:
  - Project management to serve as liaison with the Education Professional Standards Board and to facilitate development of the Effective Educator Preparation Index for teacher preparation programs
  - Required hardware and/or software for development of the Effective Educator Preparation Index for teacher preparation programs
  - Program developer(s) and data analyst(s)
  - Training for state-level and university staff on how to utilize the Effective Educator Preparation Index
- Cost per procurement and time to be devoted to this project: \$500,000 per year for three consecutive years, totaling \$1,500,000 to be charged to a potential Race to the Top award grant

*Development of the Effective Principal Preparation Index for principal preparation programs*

- Purpose: Kentucky's Education Professional Standards Board will procure a vendor(s) to develop a Effective Principal Preparation Index that measures the effectiveness of principal preparation programs as described in section (D)(4)
- Products and professional services included in this procurement (this list is not comprehensive, and will be tailored based on proposals from potential vendors):
  - Project management to serve as liaison with the Education Professional Standards Board and to facilitate development of the Effective Principal Preparation Index for principal preparation programs
  - Required hardware and/or software for development of Effective Principal Preparation Index for principal preparation programs
  - Program developer(s) and data analyst(s)
  - Training for state-level and university staff on how to utilize Effective Principal Preparation Index
- Cost per procurement and time to be devoted to this project: \$500,000 per year for three consecutive years, totaling \$1,500,000 to be charged to a potential Race to the Top award grant

*Development of a survey application for new teachers and principals*

- Purpose: Kentucky's Education Professional Standards Board will procure a vendor(s) to develop a survey for new teachers and a survey for new principals that will provide feedback on their preparation programs as an input into the Effective Educator and Principal Preparation Indices for teacher and principal preparation programs
- Products and professional services included in this procurement:
  - Development of software and hardware
  - Program developer and part-time business / data analyst
- Cost per procurement and time to be devoted to this project: This is a two-year project, with a total of \$850,000 to be charged to a potential Race to the Top award grant

## Kentucky Race to the Top Application: Budgets & Budget Narratives

- Year 1: \$550,000 for development of software and hardware, \$120,000 for program developer and \$30,000 for a part-time business / data analyst (Totaling \$700,000 for Year 1)
- Year 2: \$120,000 for program developer and \$30,000 for a part-time business / data analyst (Totaling \$150,000 for Year 2)

### **Line item 10: Indirect Costs**

- Kentucky's indirect cost rate, as stipulated in Kentucky's Indirect Cost Rate Agreement (approved by the U. S. Department of Education), is 14.1%
- There are no indirect costs for this project as all costs fall under the Contractual category

**Project #6: Educational Recovery for the lowest-achieving schools**

<b>Budget Part II: Project-Level Budget Table</b> <b>Project Name:</b> Educational Recovery for the lowest-achieving schools <b>Associated with Criteria:</b> (E)(2) <b>(Evidence for selection criterion (A)(2)(i)(d))</b>					
<b>Budget Categories</b>	<b>Project Year 1 (a)</b>	<b>Project Year 2 (b)</b>	<b>Project Year 3 (c)</b>	<b>Project Year 4 (d)</b>	<b>Total (e)</b>
1. Personnel	\$75,000	\$75,000	\$75,000	\$75,000	\$300,000
2. Fringe Benefits	\$22,500	\$22,500	\$22,500	\$22,500	\$90,000
3. Travel	\$0	\$0	\$0	\$0	\$0
4. Equipment	\$0	\$0	\$0	\$0	\$0
5. Supplies	\$0	\$0	\$0	\$0	\$0
6. Contractual	\$1,795,000	\$295,000	\$3,295,000	\$295,000	\$5,680,000
7. Training Stipends	\$0	\$0	\$0	\$0	\$0
8. Other	\$0	\$0	\$0	\$0	\$0
9. Total Direct Costs (lines 1-8)	\$1,892,500	\$392,500	\$3,392,500	\$392,500	\$6,070,000
10. Indirect Costs*	\$13,748	\$13,748	\$13,748	\$13,748	\$54,990
11. Funding for Involved LEAs	\$0	\$0	\$0	\$0	\$0
12. Supplemental Funding for Participating LEAs	\$0	\$0	\$0	\$0	\$0
13. Total Costs (lines 9-12)	\$1,906,245	\$406,248	\$3,406,248	\$406,248	\$ 6,124,990
<i>Note: Calculations were conducted in a separate spreadsheet. Due to rounding, there may be small errors in the figures above.</i>					

### **Project #6: Educational Recovery for the lowest-achieving schools**

This budget includes the costs associated with building Kentucky’s new turnaround program. All direct costs for this project fall under one of the following categories: “Personnel,” “Fringe Benefits,” and “Contractual,” and are described in detail below. Remaining costs are within “Indirect Costs.” The majority of the costs for this work will be covered by School Improvement Grants / Title I funding and State School Improvement funding. The costs described in detail below explain the portions of this work that the Race to the Top grant award would fund, totaling ~\$6.1M.

#### **Line item 1: Personnel**

##### *Educational Recovery Project Manager*

- The Kentucky Department of Education will create a new position, entitled the “Educational Recovery Project Manager,” with the following key responsibilities:
  - Lead the Request for Proposal and selection process to establish the Centers for Learning Excellence, and build the regional Center for Learning Excellence networks
  - Establish formal and informal communication channels between Centers for Learning Excellence to facilitate knowledge sharing
  - Serve as the Kentucky Department of Education point person for all Centers for Learning Excellence, and Educational Recovery school and LEA personnel when necessary
- Annual base salary: \$75,000
- Percentage of full-time equivalent: 100%
- The Race to the Top grant award would fund 4 years of this position, totaling \$300,000. After four years, other sources of funding for turnaround work will fund this position should it still be considered necessary to facilitate ongoing Educational Recovery processes.

**Line item 2: Fringe Benefits**

*Educational Recovery Project Manager*

- The fringe benefit percentage for this position is 30% of base salary each year. 30% of the \$75,000 base salary is \$22,500 each year, totaling \$90,000 over the four year period funded through Race to the Top.
- The fringe benefit percentage of 30% was estimated based on benchmarks from other similar positions at the Kentucky Department of Education.

**Line item 6: Contractual**

Note: Kentucky has followed the procedures for procurement under 34 CFR Parts 74.40 - 74.48 and Part 80.36.

*Establishment of Centers for Learning Excellence*

- Purpose: The Kentucky Department of Education will utilize a Request for Proposal process to select organizations (i.e., vendors) to establish nine Centers for Learning Excellence as described in (E)(2)
- Products and professional services included in this procurement (*this is a partial list; see (E)(2) for more detail on the role of Centers for Learning Excellence*):
  - Identification and coordination of supports for Educational Recovery Schools
  - Varied staff expertise in school turnaround
  - Utilizing the CIITS (*see section (C)(3) for more detail*) to ensure knowledge sharing platform / processes across Educational Recovery Schools
- Cost per procurement and time to be devoted to this project: \$500,000 for each of three Centers for Learning Excellence to be established in Year 1, followed by \$500,000 for each of six additional Centers for Learning Excellence to be established in Year 3, totaling \$4,500,000 to be charged to a potential Race to the Top award grant
- The ongoing management costs of the Centers for Learning Excellence will be primarily covered by School Improvement Grants.

*Educational Recovery Summits*

- Purpose: The Kentucky Department of Education's District 180 will work with the Centers for Learning Excellence to hold three professional learning conferences each year to ensure knowledge sharing amongst Educational Recovery schools and districts.
- Products and professional services included in this procurement:
  - Conference facilitation fees, including venue
  - Note: does not include remuneration fees for travel and time off for participants, if application
- Cost detail: \$15,000 for each convening. There will be 3 each year, totaling \$45,000 each year, and \$180,000 total to be charged to the Race to the Top grant award.

*Deployment of Educational Recovery Leader and Specialist training programs*

- Purpose: Educational Recovery Leaders will participate in an intensive training program prior to entering the classroom as part of receiving the Educational Recovery Leader and Specialist endorsements.
- Products and professional services included in this procurement:
  - Vendor services to support development and facilitation of training programs for Educational Recovery Leaders and Specialists for four years
- Cost detail: \$250,000 per year for four years, totaling \$1,000,000 over four years
- The costs to run this program will be covered by the Race to the Top award grant for Years 1 through 4, and will thereafter be covered by federal and state school improvement grant funding.

**Line item 10: Indirect Costs**

- Kentucky's indirect cost rate, as stipulated in Kentucky's Indirect Cost Rate Agreement (approved by the U. S. Department of Education), is 14.1%
- This rate applied to the direct costs for Personnel, Fringe Benefits, Travel, and Supplies for this project comes to ~\$55,000 in indirect costs

**Project #7: Race to the Top Project Management**

<b>Budget Part II: Project-Level Budget Table</b> <b>Project Name: Race to the Top Project Management</b> <b>Associated with Criteria: (A)(2)</b> <b>(Evidence for selection criterion (A)(2)(i)(d))</b>					
Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total (e)
1. Personnel	\$75,000	\$75,000	\$75,000	\$75,000	\$300,000
2. Fringe Benefits	\$22,500	\$22,500	\$22,500	\$22,500	\$90,000
3. Travel	\$0	\$0	\$0	\$0	\$0
4. Equipment	\$0	\$0	\$0	\$0	\$0
5. Supplies	\$0	\$0	\$0	\$0	\$0
6. Contractual	\$965,000	\$0	\$0	\$0	\$965,000
7. Training Stipends	\$0	\$0	\$0	\$0	\$0
8. Other	\$0	\$0	\$0	\$0	\$0
9. Total Direct Costs (lines 1-8)	\$1,062,500	\$97,500	\$97,500	\$97,500	\$1,355,000
10. Indirect Costs*	\$13,748	\$13,748	\$13,748	\$13,748	\$54,990
11. Funding for Involved LEAs	\$0	\$0	\$0	\$0	\$0
12. Supplemental Funding for Participating LEAs	\$3,525,000	\$625,000	\$625,000	\$625,000	\$5,500,000
13. Total Costs (lines 9-12)	\$4,601,248	\$736,248	\$736,248	\$736,248	\$6,909,990
<i>Note: Calculations were conducted in a separate spreadsheet. Due to rounding, there may be small errors in the figures above.</i>					

### **Project #7: Race to the Top Project Management**

This project is associated with criterion (A)(2) and outlines Kentucky's approach to overall Race to the Top project leadership and management of the grant as detailed in section (A)(2). To ensure sufficient capacity at all levels of the education system, this project also includes funding to supplement the potential underfunding of Participating LEAs for whom the Title 1 formula may result in insufficient funding to fully implement Kentucky's Race to the Top plans. Furthermore, given Kentucky's focus on fostering innovation, Project 7 includes an "Innovation fund" from which competitive grants will be awarded to LEAs who propose new, innovative projects with the aims of increasing student learning in their districts, as detailed in (A)(2). The costs of this work to the State that would be covered by a Race to the Top grant award are \$6.9M.

All direct costs for this project fall under the "Personnel," "Fringe Benefits," and "Contractual" categories, with the remaining costs falling within "Indirect Costs" and "Supplemental Funding for Participating LEAs." The costs described in detail below explain the portions of this work that the Race to the Top grant award would fund.

#### **Line item 1: Personnel**

##### *RTTT Director*

- Purpose: The RTTT Director will be a new staff person at the Kentucky Department of Education who will lead the overall facilitation and implementation of the Race to the Top plans.
- The base salary for this position is \$75,000. This is a four-year position, totaling \$300,000 that will be charged to a potential Race to the Top grant award.

#### **Line item 2: Fringe benefits**

##### *RTTT Director*

- The fringe benefit percentage is 30% to cover employee benefits. Applied to the total salary costs for the RTTT Director's four-year term noted above, the total fringe benefit cost is \$90,000 that will be charged to the potential Race to the Top grant award.

**Line item 6: Contractual**

Note: Kentucky has followed the procedures for procurement under 34 CFR Parts 74.40 - 74.48 and Part 80.36.

*Technology platforms to support ongoing RTTT management and monitoring*

- Purpose: The Kentucky Department of Education will hire a contractor to assess and identify the necessary technology platforms to continuously manage and monitor the funding that is dispersed and the work that is being done.
- Products and professional services included in this procurement:
  - Consulting services, software required, and training to equip RTTT team to effectively manage the grant and implementation plans
  - Cost per procurement and time to be devoted to this project: \$500,000

*School improvement planning software*

- Purpose: All schools and districts will use school improvement planning software as a necessary technology platform to manage planning and implementation of all school level projects and initiatives (as well as district-level views of project progress.)
- Products and professional services included in this procurement:
  - Professional team analyzes conditions, readiness, and transferability of data
  - MOA mutually developed
  - Training on system provided
  - On-going TA provided
  - Basic aggregate reports
- Cost per procurement and time to be devoted to this project: \$465,000
- The total costs for this contract are estimated to be about \$2.8M over three years. The following is the breakdown of how the full contract will be funded: \$940,000 from School Improvement Grants; \$930,000 from State School Improvement funding; \$465,000 from the State's Race to the Top award, and \$465,000 from the LEAs' 50% subgrant from Race to the Top.

**Line item 10: Indirect Costs**

- Kentucky's indirect cost rate, as stipulated in Kentucky's Indirect Cost Rate Agreement (approved by the U. S. Department of Education), is 14.1%
- This rate applied to the direct costs for Personnel, Fringe Benefits, Travel, and Supplies for this project comes to ~\$55,000 in indirect costs

**Line item 12: Supplemental Funding for Participating LEAs**

*Innovation Fund*

- Purpose of supplemental funding: A \$2.5M competitive fund will be established to provide additional funding to LEAs that submit proposals and are awarded subgrants for innovative projects and initiatives

*LEAs whose Title I share is being supplemented by the State*

- Purpose of supplemental funding: Based on their Title I share, 30 LEAs will likely require additional funding to fully implement the Race to the Top plans proposed.
- Cost detail: The total additional funding required across these 30 LEAs is estimated to be \$3M, which will come from the State's portion of the Race to the Top award. These supplementary subgrants will range from \$2,000 to \$800,000 with an average of about \$165,000.
- Because all 174 LEAs in Kentucky have signed on to participate in the Race to the Top initiatives, the final amounts for these supplemental subgrants will be determined during the scoping of work phase.



Steven L. Beshear  
Governor

Terry Holliday, Ph.D.  
Commissioner of Education

**EDUCATION AND WORKFORCE DEVELOPMENT CABINET  
DEPARTMENT OF EDUCATION**

Capital Plaza Tower 500 Mero Street Frankfort, Kentucky 40601  
Phone: (502) 564-4770 www.education.ky.gov

To: All Kentucky Educators and Education Partners

Today, the Kentucky Senate unanimously passed House Bill 176, part of a historic process that will have resonating effects for years to come throughout the state's public school classrooms.

This vote is part of a fast-paced set of activities that began with the filing of HB 176 by Representatives Carl Rollins, Ted Edmonds, Jeff Greer, Tom Riner and Tommy Thompson. After much review and discussion, the bill was passed out of the House unanimously and delivered to the Senate, where it underwent further review and discussion in preparation for today's vote. The support of House Education Committee Chair Carl Rollins and Senate Education Committee Chair Ken Winters was crucial to their fellow legislators' understanding and willingness to move forward.

The actions by the House and Senate are unprecedented and show the deep commitment Kentucky's legislators have to the state's youngest citizens.

House Bill 176 will provide much-needed interventions in the state's lowest-performing schools and will strengthen Kentucky's application for funding through the federal Race to the Top program. Through HB 176, Kentucky will be able to offer school districts more options to help them improve – from selecting an education management organization to operate schools, to exercising more flexibility in staffing, to restructuring the existing management of those schools that are persistently low-performing.

The state's school districts have shown their support for these options as well – all 174 school district superintendents, local boards of education and teacher representatives have formally signed off on the memorandum of understanding for the Race to the Top application.

If the state's application is successful, funds from Race to the Top will enable us to move Kentucky forward in P-12 education, with student success as the centerpiece. Race to the Top demands that states focus their energies on student achievement and provide the highest-quality learning opportunities for all children.

Kentucky's path to accomplishing this vision requires concerted action to demonstrate that the state:  
    expects that all students can and will learn at high levels, codified in internationally benchmarked standards  
    creates great teachers, principals, superintendents and others supporting students, with each challenged to perform at a high level and supported to do so  
    assesses performance of students, staff, schools and approaches, with access to information enabled by an easy-to-use data system  
    provides needed assistance and/or interventions when schools and districts prove to persistently struggle to improve

Thanks to the actions of the House and Senate, and to the support of local school officials, school boards, teacher representatives and education partners across the state, Kentucky will lead the nation in the next wave of educational improvement. I applaud the members of the Kentucky General Assembly for their very public show of dedication to our state's public school students, teachers, administrators and parents, and all of the citizens of the Commonwealth.

In appreciation,

Terry Holliday, PhD  
Commissioner



## Race to the Top Advisory Council and Stakeholder Letters of Support

The Kentucky Race to the Top Advisory Council was comprised of key stakeholder organizations representing key state agencies; the states' teacher union; associations representing principals, superintendents, school boards and school councils; and other State and local leaders, including parent, community, business and civil rights groups. The specific organizations and individual that participated are listed below.

Letters support from each of these organizations on Kentucky's Race to the Top Advisory Council follow.

Organization	Individual(s) Participating
Kentucky Department of Education (KDE)	Commissioner Terry Holliday
Kentucky Education and Workforce Development Cabinet	Interim Secretary Joe Meyer
Council on Postsecondary Education (CPE)	President Bob King
Education Professional Standards Board (EPSB)	Executive Director Phil Rogers
Kentucky Education Association (KEA)	Executive Director Mary Ann Blankenship President Sharron Oxendine
Kentucky Association of School Administrators (KASA)	Executive Director Wayne Young
Kentucky Association of School Superintendents (KASS)	Executive Director Wilson Sears
Kentucky School Boards Association (KSBA)	Executive Director Bill Scott
Kentucky Association of School Councils (KASC)	Executive Director Ronda Harmon
Kentucky Association of Educational Cooperatives (KAEC)	Executive Director Liz Storey
Kentucky Parent/Teacher Association (KY-PTA)	President Sandy Rutledge
Prichard Committee for Academic Excellence	Associate Executive Director Cindy Heine
Partnership at NewCities	Executive Director Carolyn Witt-Jones
Kentucky Commission on Human Rights	Executive Director John Johnson

In addition to the support of members of the Race to the Top Advisory Council, other organizations, including Kentucky's public universities have also been included.

Organization	Individual(s) Participating
University of Kentucky	President Lee Todd
University of Louisville	President James Ramsey
Eastern Kentucky University	President Doug Whitlock
Kentucky State University	President Mary Evans Sias
Morehead State University	President Wayne Andrews
Murray State University	President Randy Dunn
Educational Testing Service	Senior Vice President Michael Nettles
Association of Independent Kentucky Colleges and Universities	President Gary Cox
National Math and Science Initiative	Chief Executive Officer Tom Luce
American Productivity and Quality Center	Chairman C. Jackson Grayson
Felix Martin Jr. Foundation	Secretary of Board of Directors Kathy Jacobi
The Gheens Foundation	Executive Director Carl M. Thomas
Lexmark International	Chairman and CEO Paul Curlander
Kentucky Chamber of Commerce	President Dave Adkisson
United Way of the Bluegrass	President Bill Farmer



**EDUCATION and WORKFORCE DEVELOPMENT CABINET  
OFFICE OF THE SECRETARY**

**Steven L. Beshear**  
Governor

Capital Plaza Tower, 3<sup>rd</sup> Floor  
500 Mero Street  
Frankfort, Kentucky 40601  
Phone (502) 564-0372  
Fax (502) 564-5959  
[www.educationcabinet.ky.gov](http://www.educationcabinet.ky.gov)

**Joseph U. Meyer**  
Acting Secretary

January 11, 2010

Dr. Terry Holliday  
Commissioner  
Department of Education  
CPT 500 Mero Street 3<sup>rd</sup> Fl  
Frankfort, KY 40601

Dear Commissioner Holliday:

The Education and Workforce Development Cabinet supports Kentucky's Race to the Top Application.

The initiatives laid out in Kentucky's proposal are the right initiatives to set Kentucky's education system on a course to realize its vision of a student-centric system where students are supported in their learning by highly effective teachers, families and communities, school and district administrators and state level partners. More specifically, we are committed to supporting the four key elements of the Race to the Top reform agenda:

- adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace
- recruiting, developing, retaining, and rewarding effective teachers and principals
- building data systems that measure student success and inform teachers and principals how they can improve their practices
- turning around our lowest-achieving schools.

Effective implementation of the next generation of school reform in Kentucky requires the support of all stakeholder groups. The Education and Workforce Development Cabinet will support the initiatives in the

January 11, 2010

Page Two

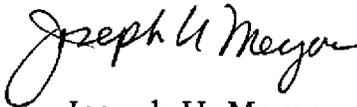
Dr. Holliday

application by directing and encouraging all the agencies within the Cabinet, including such agencies as the Education Professional Standards Board (EPSB) and Kentucky Educational Television, to be full partners with the Department in its implementation of the Race to the Top commitments.

The Cabinet also chairs the P-20 Data Collaborative, currently comprised of the Council on Postsecondary Education, EPSB and the Department of Education. These partners are overseeing the development and enhancement of the data systems that will enable the appropriate and effective use of data to measure student success and inform teachers and principals how they can improve their practices.

We appreciate your leadership in this effort. It is that leadership that will be crucial as we work together to provide the young people of our state with the best education possible. We look forward to supporting your efforts in every way possible.

Sincerely,

A handwritten signature in cursive script that reads "Joseph U. Meyer".

Joseph U. Meyer



## Kentucky Council on Postsecondary Education

**Steven L. Beshear**  
Governor

1024 Capital Center Drive, Suite 320  
Frankfort, Kentucky 40601  
Phone: 502-573-1555  
Fax: 502-573-1535  
<http://www.cpe.ky.gov>

**Robert L. King**  
President

January 13, 2010

Terry Holliday  
Commissioner  
Kentucky Dept. of Education  
Capital Plaza Tower, 1<sup>st</sup> floor  
500 Mero Street  
Frankfort, KY 40601

Dear Commissioner Holliday:

As a member of the Race to the Top Application Advisory Council, I am writing to pledge the Council on Postsecondary Education's support for Kentucky's Race to the Top application. We believe the initiatives described in the Kentucky proposal will set our education system on a course that will help it realize its vision of a student-centric system where students are supported in their learning by highly effective teachers, families and communities, school and district administrators and state level partners. More specifically, the Council pledges its support to fully integrating higher education into the P-12 experience; training teachers who will teach students so that they are college and career ready, raising all boats on the tide. We are committed to the four key elements of the Race to the Top reform agenda:

- Adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace;
- Recruiting, developing, retaining, and rewarding effective teachers and principals;
- Building data systems that measure student success and inform teachers and principals how they can improve their practices;
- Turning around our lowest-achieving schools.

The reforms needed in Kentucky education now, as in 1990 with the Kentucky Education Reform Act, require the support of all constituency groups to be effectively implemented.

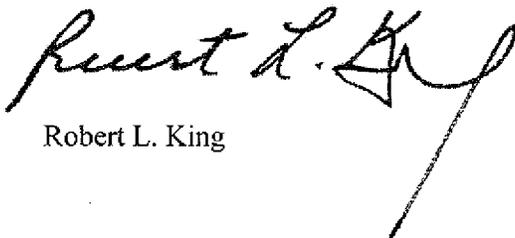
It is with this commitment to Kentucky's education vision in mind that the Kentucky Council on Postsecondary Education, representing Kentucky's public postsecondary institutions including our research and regional universities and the Kentucky Community and Technical College System, is pleased to commit our support of Kentucky's Race to the Top application. In addition to our commitment to the application, our organization also commits to support the initiatives in the application by:

Commissioner Terry Holliday  
January 13, 2010  
Page 2

- Providing technical support for P-20 database systems;
- Providing research and programmatic support for professional development of pre-and in-service teachers and school leadership;
- Providing outstanding training programs for teachers and school leaders;
- Collaborating to build a supportive educational community that promotes college and career readiness;
- Linking the college readiness standards to introductory college coursework so that students experience a smooth transition from high school to postsecondary degree and workforce training programs.

We appreciate your leadership in this effort and the collaborative approach you have adopted to the preparation of this application. The last several months have seen remarkable growth in the relationship between our two agencies and the work we have done together has resulted in a very strong application that will change lives in the Commonwealth. We look forward to supporting these efforts in every way possible.

Sincerely,

A handwritten signature in cursive script, appearing to read "Robert L. King". The signature is written in black ink and is positioned above the printed name.

Robert L. King



EDUCATION PROFESSIONAL STANDARDS BOARD

Steven L. Beshear  
Governor

100 Airport Road, 3rd Floor, Frankfort, Kentucky 40601  
Phone: 502-564-4606 Fax: 502-564-7080  
www.kyepsb.net

Phillip S. Rogers, Ed.D.  
Executive Director

January 13, 2010

Commissioner Terry Holliday  
Kentucky Department of Education  
500 Mero Street  
Frankfort, KY 40601

Dear Commissioner Holliday:

As a member of the Race to the Top Application Advisory Council, I am writing to pledge the support of the Education Professional Standards Board (EPSB) for Kentucky's Race to the Top Application. We believe that the initiatives laid out in Kentucky's proposal are the right initiatives to set Kentucky's education system on course to realize the vision of a system where students are supported in their learning by highly effective teachers, families and communities, school and district administrators, and state level partners. More specifically, we are committed to supporting the four key elements of the Race to the Top reform agenda:

- adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace
- recruiting, developing, retaining, and rewarding effective teachers and principals
- building data systems that measure student success and inform teachers and principals how they can improve their practices
- turning around our lowest-achieving schools

To be effectively implemented, the reforms now needed in Kentucky education, as in 1990 with the Kentucky Education Reform Act, require the support of all stakeholder groups. With this commitment to Kentucky's education vision in mind, the EPSB is pleased to support Kentucky's Race to the Top application.

We appreciate your leadership in this effort and know that it will be crucial as we work together to provide the young people of our state with the best education possible. We look forward to supporting your efforts in every way possible.

Sincerely,

A handwritten signature in black ink, appearing to read "Lorraine Williams".

Lorraine Williams  
EPSB Chair

ana



May 28, 2010

Terry Holliday, Ph.D.  
Commissioner of Education  
Commonwealth of Kentucky  
Capital Plaza Office Tower  
Mero Street  
Frankfort, Kentucky 40601

Dear Dr. Holliday,

The Kentucky Education Association is pleased to support Kentucky's application for federal Race to the Top funds in round 2 of that competition. As you know, KEA represents more than 41,000 Kentucky educators, primarily classroom teachers but also including students studying to become teachers, retired school staff as well as school classified employees. KEA has a local association in each of Kentucky 174 school districts and is the state affiliate of the National Education Association.

Throughout the Race to the Top application process, the Kentucky Department of Education has worked collaboratively with KEA as well as with many other partners representing all aspects of the education community in Kentucky as well as business and other public organizations. KDE and KEA have also worked closely with Kentucky Governor Steve Beshear. KEA commends you and the KDE staff for working collaboratively and patiently to create an application that has broad support.

KEA believes that Kentucky's application, if successful, will help all of us provide the professional development and support that teachers need to implement Kentucky's own plans to adopt new standards and create new assessment and accountability systems. Further, it will allow us to create a data system and technology support to help all teachers improve their own practice and consequently the education our students receive. Finally, we believe it will help our members receive meaningful information and feedback as they work to assure that all children reach their potential.

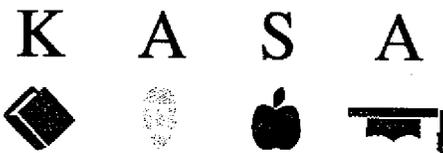
KEA appreciates the collaborative relationship we have built together and look forward to our joint work in the future, both to implement the plans in Kentucky's Race to the Top application and other endeavors that move Kentucky forward.

Sincerely,

Sharron K. Oxendine  
President

Mary Ann Blankenship  
Executive Director

401 Capital Avenue  
Frankfort, KY 40601  
1 502/875-2889 or 1 800/231-4532  
Fax: 1 502/227-9002  
Internet: [www.kea.org](http://www.kea.org)



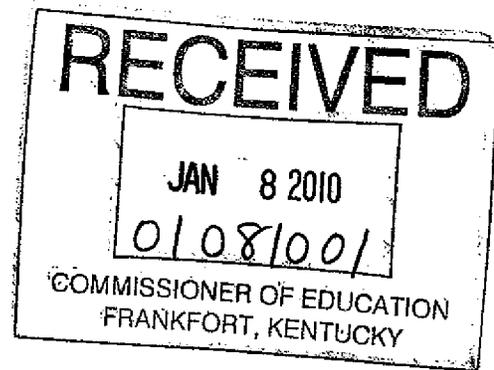
Kentucky  
Association  
of School  
Administrators

152 Consumer Lane  
Frankfort, KY 40601  
In Frankfort:  
(502) 875-3411  
Toll Free:  
(800) 928-KASA  
Fax Line:  
(502) 875-4634

[www.kasa.org](http://www.kasa.org)

January 5, 2010

Dr. Terry Holliday, Commissioner  
Kentucky Department of Education  
Capital Plaza Tower, First Floor  
500 Mero Street  
Frankfort, Kentucky 40601



Dear Commissioner Holliday,

As a member of the Race to the Top Application Advisory Council, I am writing to pledge my organization's support for Kentucky's Race to the Top Application. We believe the initiatives laid out in Kentucky's proposal are the right initiatives to set Kentucky's education system on a course that will help it realize its vision of a student-centric system where students are supported in their learning by highly effective teachers, families and communities, school and district administrators and state level partners. More specifically, we are committed to supporting the four key elements of the Race to the Top reform agenda:

- adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace
- recruiting, developing, retaining, and rewarding effective teachers and principals
- building data systems that measure student success and inform teachers and principals how they can improve their practices
- turning around our lowest-achieving schools

The reforms needed in Kentucky education now, as in 1990 with the Kentucky Education Reform Act, require the support of all stakeholder groups to be effectively implemented.

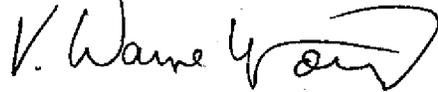
It is with this commitment to Kentucky's education vision in mind that our organization is pleased to commit our support of Kentucky's Race to the Top application. In addition to our commitment to the application, our organization also commits to support the initiatives in the application by:

- Actively promoting the Race to the Top Initiatives among our more than 3000 members serving as school leaders across Kentucky;
- Encouraging school administrators to pursue innovative methods of accomplishing the bold initiatives of Race to the Top;
- Spotlighting the successes of Race to the Top initiatives by featuring the results in workshops, conferences, and training events throughout the state, and actively supporting their replication in all districts.

Dr. Terry Holliday  
January 5, 2010  
Page 2

We appreciate your leadership in this effort. It is that leadership that will be crucial as we work together to provide the young people of our state with the best education possible. We look forward to supporting your efforts in every way possible.

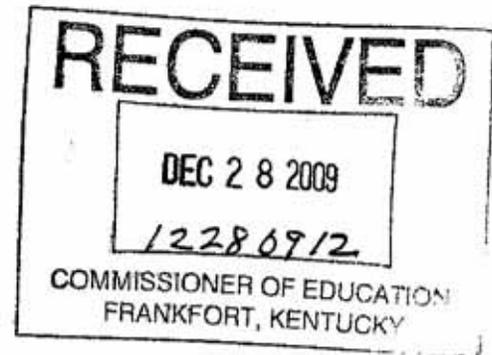
Sincerely,

A handwritten signature in black ink, appearing to read "V. Wayne Young". The signature is written in a cursive style with a large, sweeping flourish at the end.

V. Wayne Young  
Executive Director



**Kentucky Association  
of School Superintendents**



Dear Commissioner Holliday,

As a member of the Race to the Top Application Advisory Council, I am writing to pledge the Kentucky Association of School Superintendents' support for Kentucky's Race to the Top Application. We believe the initiatives laid out in Kentucky's proposal are the right initiatives to set Kentucky's education system on a course that will help it realize its vision of a student-centric system where students are supported in their learning by highly effective teachers, families and communities, school and district administrators and state-level partners. More specifically, we are committed to supporting the four key elements of the Race to the Top reform agenda:

- adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace
- recruiting, developing, retaining, and rewarding effective teachers and principals
- building data systems that measure student success and inform teachers and principals how they can improve their practices
- turning around our lowest-achieving schools

The reforms needed in Kentucky education now, as in 1990 with the Kentucky Education Reform Act, require the support of all stakeholder groups to be effectively implemented.

It is with this commitment to Kentucky's education vision in mind that the Superintendents of Kentucky are pleased to commit our support of Kentucky's Race to the Top application. In addition to our commitment to the application, KASS also commits to support the initiatives in the application by:

- A commitment to enhanced Professional Development for all Superintendents
- A commitment to an improved and comprehensive evaluation system at all levels
- Increased focus on student achievement generally and specifically in low performing schools

We appreciate your leadership in this effort. It is that leadership that will be crucial as we work together to provide the young people of our state with the best education possible. We look forward to supporting your efforts in every way possible.

Sincerely,

(b)(6)

**WILSON SEARS**  
Executive Director

Mobile (606) 875-1771 • wilsonsears@gmail.com

101 Woodland Drive • Somerset, KY 42501-1351 • Office (606) 678-4860 • Fax (606) 678-4860



260 Democrat Drive  
 Frankfort, KY 40601  
 1-800-372-2962 • FAX (502) 695-5451  
 KSBA Website: www.ksba.org

**BOARD OF DIRECTORS**

President  
 Delmar D. Mahan  
*Whitley County*  
 President-elect  
 Tom Blankenship  
*Lincoln County*  
 Immediate Past President  
 Ed Massey  
*Boone County*

**Directors-at-large**

Tim England  
*Barren County*  
 Dr. Jacqueline Pope-Tarrence  
*Bowling Green Independent*  
 Darryl Lynch  
*Christian County*  
 Ronnie Holmes  
*Graves County*  
 Allen Kennedy  
*Hancock County*  
 Linda Duncan  
*Jefferson County*  
 Durward Narramore  
*Jenkins Independent*  
 Eugene Peel  
*Jessamine County*  
 Carl Wicklund  
*Kenton County*  
 Ann Porter  
*Mason County*  
 Dr. John Inman  
*Meadle County*  
 William White  
*Pulaski County*

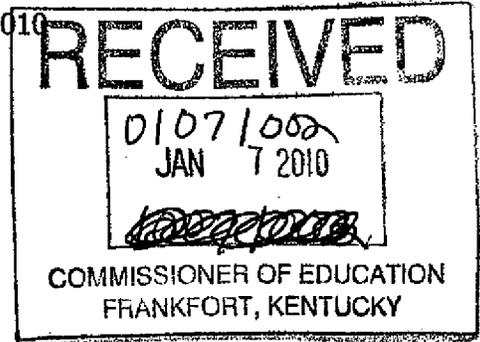
**Regional Chairpersons**

Chris Watts  
*Adair County*  
 Jeff Eaton  
*Allen County*  
 Mike Combs  
*Campbell County*  
 Lisa Hawley  
*Cloverport Independent*  
 Jeff Stumbo  
*Floyd County*  
 William Owens  
*Lee County*  
 Fern Reed  
*Montgomery County*  
 Marshall Jenkins  
*Morgan County*  
 Larry Dodson  
*Oldham County*  
 Jane Haase  
*Owensboro Independent*  
 Dr. Felix Akojle  
*Paducah Independent*  
 Jeanette "Sissy" Cawood  
*Pineville Independent*

**EXECUTIVE DIRECTOR**

Bill Scott  
**ASSOCIATE EXECUTIVE DIRECTOR/  
 GOVERNMENTAL RELATIONS**  
 David A. Baird  
**BOARD TEAM DEVELOPMENT**  
 Kerri Schelling  
**CHIEF FINANCIAL OFFICER**  
 Stephen B. Smith  
**INSURANCE/RISK MANAGEMENT**  
 Myron Thompson  
**LEGAL SERVICES**  
 J. Stephen Kirby  
**MEMBER SUPPORT SERVICES**  
 Brad Hughes  
**POLICY & PROCEDURES SERVICES**  
 Dara Bass

January 4, 2010



Dr. Terry Holliday  
 Commissioner of Education  
 Kentucky Department of Education  
 Capitol Plaza Tower, 500 Mero Street  
 Frankfort, KY 40601

Dear Commissioner Holliday:

As a member of the Race to the Top Application Advisory Council, representing the Kentucky School Boards Association, I am writing to pledge my organization's support for Kentucky's Race to the Top Application. We believe the initiatives laid out in Kentucky's proposal are the right initiatives to set Kentucky's education system on a course that will help it realize its vision of a student-centric system where students are supported in their learning by highly effective teachers, families and communities, school and district administrators and state level partners. More specifically, we are committed to supporting the four key elements of the Race to the Top reform agenda:

- adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace
- recruiting, developing, retaining, and rewarding effective teachers and principals
- building data systems that measure student success and inform teachers and principals how they can improve their practices
- turning around our lowest-achieving schools

The reforms needed in Kentucky education now, as in 1990 with the Kentucky Education Reform Act, require the support of all stakeholder groups to be effectively implemented.

It is with this commitment to Kentucky's education vision in mind that our organization is pleased to commit our support of Kentucky's Race to the Top application. In particular, KSBA supports the following:

- *High-quality assessments that will measure student growth*
- *A principal and teacher evaluation system that measures student growth over time*
- *Changes to the teacher evaluation system that provide teachers with the support needed to become the best teacher possible and make tenure a meaningful milestone in their career*

Dr. Terry Holliday  
January 4, 2010  
Page 2

- *Innovative models for turning around low-performing schools*
- *A differentiated compensation system designed and implemented at the local level, especially for additionally assigned duties*
- *Professional learning teams and job-embedded professional development*
- *A Continuous Instructional Improvement Technology System so instructional tools can be at the fingertips of every teacher*
- *Strong data support systems for P-20 to track student progress, school innovation, and teacher preparation program effectiveness*

In terms of specific actions by KSBA to support Kentucky's RTTT application:

- *We commit to provide training to the state's school board members to assist local school districts with the implementation of the grant*
- *We will promote and participate in the Voluntary Partnership Assistance Team or VPAT program (a multifaceted approach to building strong district leadership for school districts with persistently low-performing schools) and provide resources necessary for its expansion and implementation...*
- *The association will assist local school districts in drafting any necessary policy changes required by the RTTT initiatives*
- *We will communicate to school board teams the overarching principles of Kentucky's RTTT effort and also help explain its specifics*
- *KSBA will encourage school board members to conduct a comprehensive evaluation of the superintendent, including using the model we have developed for this purpose*

We appreciate your leadership in this effort. It is that leadership that will be crucial as we work together to provide the young people of our state with the best education possible. We look forward to supporting your efforts in every way possible.

Sincerely yours,



William G. Scott  
Executive Director

/ka



January 8, 2010

Dear Commissioner Holliday,

As a member of the Race to the Top Application Advisory Council, I am writing to pledge the Kentucky Association of School Councils' support for Kentucky's Race to the Top application.

We believe Kentucky is uniquely positioned to reach the challenging goals of the Race to the Top program. Kentucky has been a leader in education since 1990 when the Kentucky Education Reform Act was enacted. As in 1990, the reforms needed in Kentucky education now require the support of all stakeholder groups to be effectively implemented, and we are committed to Kentucky's vision.

We believe the initiatives laid out in Kentucky's application are the right initiatives to set our state education system on a course to realize the vision of a student-centric system where all pupils are supported in their learning by highly effective teachers, and where families and communities, school and district administrators, and state-level partners are fully engaged. More specifically, we are committed to supporting the four key elements of the Race to the Top agenda:

- adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace
- recruiting, developing, retaining, and rewarding effective teachers and principals
- building data systems that measure student success and inform teachers and principals about how they can improve practices
- turning around our lowest-achieving schools

Our organization is pleased to commit its support of Kentucky's Race to the Top application and Kentucky's education vision. In addition, our organization fully commits to using school council leadership to help more schools innovate in ways that will make sure all students will be engaged learners.

We appreciate your leadership in this effort. Vision and leadership will be crucial as we work together to provide the young people of our state with the best education possible. We look forward to supporting these efforts in every way possible.

P.O. BOX 784  
DANVILLE, KY 40423

phone > (859) 238-2188  
fax > (859) 238-0806  
office > 217 S. Fourth St.  
email > kasc@kasc.net

[www.kasc.net](http://www.kasc.net)

**RONDA HARMON**  
Executive Director

Sincerely,

A handwritten signature in black ink that reads "Ronda Harmon". The signature is written in a cursive, flowing style.

Ronda Harmon  
Executive Director  
Kentucky Association of School Councils

230 Technology Way  
Bowling Green, KY 42101  
Ph: (270) 563-2113  
Fax: (270) 563-2208  
www.grrec.ky.gov

# GRREC

Green River Regional  
Educational Cooperative, Inc.

*Supporting High Quality Teaching and Learning*

Scott Lewis  
Board Chairman

Joe Tinius  
Vice-Chairman

Barry Anderson  
Past Chairman

Liz Storey  
Executive Director

December 31, 2009

Dr. Terry Holliday, Commissioner  
KY Department of Education  
500 Mero Street, 1<sup>st</sup> Floor Capital Plaza Tower  
Frankfort, KY 40601

Dear Dr. Holliday:

The Kentucky Association of Educational Cooperatives (KAEC), representing the eight regional services centers in the state, submits this letter to evidence our endorsement and support to the KY Department of Education in its application for funding through the USDOE's Race to the Top (RTTT) competition.

Regional educational cooperatives have existed in Kentucky for more than fifty years and have a rich history of effectively serving our respective member school districts, working productively with a large number of partners at the local, state and national levels. In regard to our state's plan for RTTT, we have been pleased to be at the planning table for the proposal development and to see the efforts included in the plan to capitalize on the already existing regional networks established by our agencies.

We are fully on board to be a key partner in the plans for spring and summer of 2010 to unpack the state's newly adopted standards and look forward to working with content specialists in our regions in this effort. This same type of work has already been occurring with existing standards and we believe critical groundwork has been laid for this transition. As the core service of our agencies is professional development, we are gearing up to assist with design and delivery of the training efforts that will be required as our state adopts new standards, a new assessment system, and a comprehensive and robust data system. We are very accustomed to the train-the-trainer, master practitioner, and professional learning community models and will continue to help identify and support initiatives utilizing these and other models that meet state and national standards for professional development.

Nothing could be closer to the core mission of the Cooperatives than helping identify, support and sustain great teachers and leaders. Therefore, for this particular pillar of the RTTT proposal, we feel we will be a critical partner. Kentucky's schools respect and feel affinity to our agencies and will be looking to us for leadership and resources as all stakeholders work together to achieve the goals of RTTT. Likewise, we'll be looking to the state for comparable leadership and resources in order to provide the best support possible to our schools.

Finally, in the area of turn-around schools, we are keenly interested in the Centers for Learning Excellence described in the proposal to support educational recovery for our lowest performing schools. Because we already have affiliations and strong collaborative relationships with our partner universities, we are optimistic that Partnership Centers can be established with these and perhaps several other agencies working jointly on behalf of these schools and their recovery.

To you, Dr. Holliday, and other friends and colleagues at the KY Department of Education, we congratulate you on your strong leadership over the past several months as this proposal has been developed. We look forward to receiving notice of funding and to working with you on bringing Kentucky's plans to fruition.

Sincerely,

A handwritten signature in cursive script that reads "Liz Storey". The signature is written in black ink and is positioned above the typed name and title.

Liz Storey, Executive Director of the Green River Regional Educational Cooperation  
On behalf of the KY Association of Educational Cooperatives



**SANDY RUTLEDGE**  
President

148 Consumer Lane  
P.O. Box 654  
Frankfort, KY 40602-0654  
(502)-226-6607  
FAX (502)-226-6610  
Email: kyptapattyh@bellsouth.net  
www.kypta.org

January 6, 2010

Commissioner Terry Holliday  
Kentucky Department of Education  
500 Mero Street, Capital Plaza Tower, 1<sup>st</sup> Floor  
Frankfort, KY 40601

Dear Commissioner Holliday,

As a member of the Race to the Top Application Advisory Council, I am writing as President of Kentucky PTA to pledge my organization's support for Kentucky's Race to the Top Application. We believe the initiatives laid out in Kentucky's proposal are the right initiatives to set Kentucky's education system on a course that will help it realize its vision of a student-centric system where students are supported in their learning by highly effective teachers, families and communities, school and district administrators and state level partners. More specifically, we are committed to supporting the four key elements of the Race to the Top reform agenda:

- adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace
- recruiting, developing, retaining, and rewarding effective teachers and principals
- building data systems that measure student success and inform teachers and principals how they can improve their practices
- turning around our lowest-achieving schools

The reforms needed in Kentucky education now, as in 1990 with the Kentucky Education Reform Act, require the support of all stakeholder groups to be effectively implemented.

It is this commitment to Kentucky's education vision that Kentucky PTA is pleased to commit our support of Kentucky's Race to the Top Application to support the initiatives by:

- *Support and plan panel discussions with members from school administration, PTAs, faculty, and community members to address issues, both financial and social, which affect your school's performance*
- *Hold town hall meetings to inform parents, and all who are interested in attending, about the necessity and importance of adopting standards and assessments for student success in the workplace and in continued education*
- *Through partnerships that Kentucky PTA has established, we will promote education opportunities for parents in the areas of parent and student rights and responsibilities targeting lowest achieving schools*

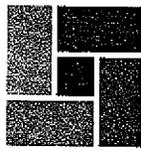
We appreciate your leadership in this effort. It is that leadership that will be crucial as we work together to provide the young people of our state with the best education possible. We look forward to supporting your efforts in every way possible.

Sincerely,

(b)(6)

Sandy Rutledge

*Making every child's potential a reality*



# PRICHARD COMMITTEE

## FOR ACADEMIC EXCELLENCE

### MEMBERS

#### OFFICERS

Sam Corbett, *Chair*  
Hilma S. Prather, *Vice-Chair*  
Keith Sanders, *Secretary/Treasurer*

#### COMMITTEE

Madeline Abramson, Louisville  
Norma E. Adams, Somerset  
Daniel L. Ash, Louisville  
Thomas E. Banta, Covington  
Brady Barlow, Lexington  
Matthew Barzun, Louisville  
Cynthia D. Baumert, Louisville  
William E. Beasley, Henderson  
Jackie Betts, Lexington  
Robert Biagi, Shelbyville  
David Bolt, Morehead  
Matthew W. Breetz, Louisville  
Gary Bricking, Ft. Mitchell  
Bob Brown, Lexington  
Patricia Brundage, Covington  
Raymond M. Burse, Prospect  
Ellen Call, Louisville  
Helen Carroll, Erlanger  
Alva Mitchell Clark, Lexington  
Martha Layne Collins, Georgetown  
Alfonso N. Cornish, Louisville  
Brad Cowgill, Lexington  
Daphne Cox, Danville  
William Cox, Jr., Madisonville  
Ben Cundiff, Cadiz  
Beverly Dalton, Bowling Green  
Siri Davenport, Owensboro  
Harold Dexter, Bowling Green  
Jean M. Dorton, Paintsville  
Karen Dougherty, M.D., Hopkinsville  
Adam Edelen, Lexington  
Paula Fryland, Louisville  
Pat Gish, Whitesburg  
Rebecca S. Goss, Harlan  
Jane Graham, Lexington  
Lois Gray, Glasgow  
Stephen Grossman, Lexington  
Kevin Hable, Louisville  
Jean R. Hale, Pikeville  
Donna S. Hall, Lexington  
Marion Halliday, Louisville  
Michael Hammons, Covington  
Necia Harkless, Lexington  
Billy Harper, Paducah  
Marianne Schmidt Hurtt, Fort Wright  
Sylvia Watson Jaegers, Louisville  
Esther P. Jansing, Owensboro  
Nancy Jarrett, Louisville  
Franklin K. Jelsma, Louisville  
JoAnn T. Johnson, Princeton  
Doug Jones, Morehead  
Cheryl Karp, Louisville  
Judy Kasey, Louisville  
Joseph W. Kelly, Salvisa  
Dan Lacy, Covington  
Ric Ladt, Paducah  
Carol Lamm, Berea  
Mary Jane Littleton, Murray  
Fannie Louise Maddux, Pembroke  
Roger L. Marcum, Bardstown  
Elissa May-Plattner, Camp Springs  
William McCann, Lexington  
Lewis N. Melton, P.E., Middlesboro  
Pam Miller, Lexington  
Wade Mountz, Louisville  
P. Daugherty Murphy, Louisville  
Dana Nicholson, Louisville  
Charlie Owen, Louisville  
Col Owens, Covington  
Kent Oyler, Louisville  
Dennis Pearce, Lexington  
Laura A. Pitman, Murray  
Dr. Hiram C. Polk, Jr., Louisville  
Margaret G. Pope, Paducah  
Louis Prichard, Paris  
Kathy Reed, Bardstown  
Teresa Combs Reed, Ary  
Josephine D. Richardson, Whitesburg  
Jill E. Robinson, Frankfort  
Jean Rosenberg, Prestonsburg  
Linda Rumpke, Lexington  
Pamela Papka Sexton, Lexington  
Albert P. Smith, Jr., Lexington  
Alice Sparks, Crescent Springs  
David Tachau, Louisville  
J. Maynard Thomas, Callettsburg  
Lynda M. Thomas, Lexington  
Barney A. Tucker, Lexington  
Lois Weinberg, Hindman  
Mary Gwen Wheeler, Louisville  
Harvie Wilkinson, Lexington  
William H. Wilson, Lexington

#### HONORARY MEMBER

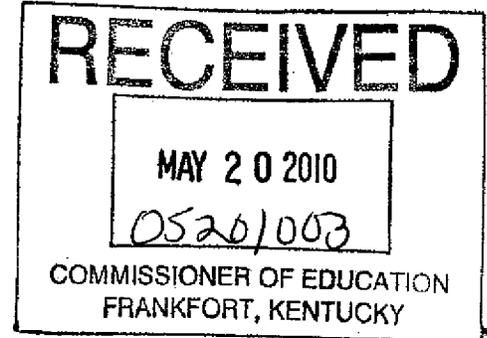
Dorothy Ridings, Louisville

Robert F. Sexton, Executive Director

May 19, 2010

Terry Holliday  
Commissioner of Education  
Kentucky Department of Education  
500 Mero Street, 1<sup>st</sup> Floor  
Frankfort, KY 40601

Dear Commissioner Holliday:



I am pleased to pledge the enthusiastic support of the Prichard Committee for Academic Excellence for Kentucky's Race to the Top application and plans. Our strong endorsement of the proposal reflects our belief that Race to the Top support will enable Kentucky to create a new education infrastructure for consistent, enduring, higher achievement.

Ensuring the high achievement of all students and building public support for stronger educational results has been the focus of our work for more than 25 years as an independent, nonprofit organization of Kentucky citizens. We're proud of Kentucky's national leadership since 1990 on standards, assessment, accountability, educators' professional growth, and intervention to strengthen weak schools. We're also excited about our legislature's 2009 passage of Senate Bill 1, committing our state to upgrade those efforts and become highly competitive in the national and global economies.

The Prichard Committee has already started working, with the support of the Bill & Melinda Gates Foundation, on an initiative to raise awareness of and support for the new common core standards among teachers, parents, employers and civic leaders. We believe the implementation of these new standards will lead to significant improvement in student achievement statewide.

We also are excited about the prospects for a Race to the Top grant that would enable Kentucky to:

- Equip all our teachers to analyze and implement our new academic standards well by tracking their students' progress throughout the year and adjusting instruction on an ongoing basis. That will move us far beyond annual accountability to a balanced assessment approach that can support much higher student achievement.

- Build new access to integrated data that educators will use to identify individual needs and schoolwide trends, creating a far more powerful tool from new and existing information that can be used for raising achievement.
- Transform our teacher and leader preparation, evaluation, and professional development methods so that we put our full strength behind the collaborative, standards-based, data-driven education system that will do the most to enhance what our students know and are able to do.
- Implement new, intensive transformation strategies for the small group of schools that are chronically failing to deliver for Kentucky children. Our existing intervention strategies have worked for most schools that showed weak performance over the last two decades, but we know we need to do something far stronger for those that have not responded acceptably to our efforts to date.

Kentucky's history and energy make us fully ready to do this important work. We are the right state, right now, to demonstrate how to move American children into global academic leadership. Race to the Top funding will allow us to accelerate our in-state work and move with added speed to complete our development of an education system that delivers excellence for each and every Kentucky child.

We pledge our best efforts to support this important work and build a statewide commitment to sustain it both during and after the grant period.

Sincerely,

A handwritten signature in black ink, appearing to read 'Bob Sexton', with a long horizontal flourish extending to the right.

Robert F. Sexton  
Executive Director

January 14, 2010

Dr. Terry Holliday  
Commissioner of Education  
500 Mero Street  
Frankfort, KY 40601

Dear Commissioner Holliday:

I am writing to commit the support of the Partnership at NewCities for Kentucky's Race to the Top (RTTP) proposal. I have been fortunate to be a member of the RTTP Advisory Council and have therefore been able to participate in the excellent process developed by Kentucky leaders for creating this most innovative and results-based approach for moving Kentucky's education system forward.

Kentucky is privileged to have a rich history of education reform. The statewide leadership of the Partnership for Successful Schools (recently merged with the NewCities Institute) has invested heavily for more than seventeen years in strategies that aggressively engage all elements of Kentucky's communities in the work of improving P-20 education. We have worked shoulder to shoulder with the Kentucky Department of Education, the Council for Postsecondary Education, the Kentucky Community and Technical College system to leverage corporate and community leadership with the goal of more students reaching proficiency and beyond.

It has been quite apparent during the past twenty years that educators cannot carry all the responsibility for improving student learning. It is imperative that we spread the responsibility for improving the prosperity of our communities. In order to do that, education improvement must be seen in the broader context of workforce and economic development with local elected leadership calling for significantly higher levels of involvement throughout the community.

It is not enough to rely on the successes of the past. The Partnership leadership believes that this application fully describes how Kentucky can achieve the next level of education improvement, building on lessons learned since 1990. Supporting the four key elements of Race to the Top can provide the needed structure for what will produce the best results for our students, the schools they attend, and the communities within which they reside.



(b)(6)

# Partnership at NewCities [www.newcities.org](http://www.newcities.org)

NewCities

This application process has encouraged our legislators to allow school districts to close low-performing public schools and restart them under the management of a private or nonprofit operator known as an educational management organization. This legislation creates a new definition of low-performing schools, taking into account graduation rates and math and reading proficiency.

The Partnership at NewCities recommits its energy and commitment toward this next phase of education improvement in Kentucky through support of Kentucky's Race to the Top application. We commit our focus on involving the community in support of literacy and numeracy through our One to One initiatives and nationally acclaimed Kentucky Scholars program which encourages greater number of students to take a more rigorous course of study. We will continue to support quality teachers through our research and policy voice. In addition, we will use our public information campaigns and community development strategic planning efforts to educate and involve an ever increasing number of citizens in the communities with whom we work.

Thank you for inviting us to submit a letter of support. Your aggressive leadership as our Commissioner is appreciated. Your style of leading will be crucial as we work together to "raise the bar" in Kentucky for all students to be educated for success at the next level of education or work. We pledge to work with you to grow the work set forth in this proposal.

Sincerely,

(b)(6)

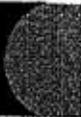
Carolyn Witt Jones  
Partnership at NewCities



NewCities  
Institute

100 East Vine Street, Suite 800, Lexington, KY 40507

[www.newcities.org](http://www.newcities.org)





## KENTUCKY COMMISSION ON HUMAN RIGHTS

**Steven L. Beshear**  
Governor

332 West Broadway, 7<sup>th</sup> Floor  
Louisville, Kentucky 40202  
(502) 595-4024  
(800) 292-5566  
(502) 595-4801 - Fax  
(502) 595-4084 - TDD  
<http://kchr.ky.gov>

**John J. Johnson**  
Executive Director

January 13, 2010

Terry Holliday, Commissioner  
Kentucky Department of Education  
Capital Plaza Tower  
500 Mero Street, 1<sup>st</sup> Floor

Dear Commissioner Holliday,

As a member of the Race to the Top Application Advisory Council, I am writing to pledge the support of the Kentucky Commission on Human Rights for Kentucky's Race to the Top Application. We believe that the initiatives laid out in Kentucky's proposal are the right initiatives to set Kentucky's education system on a course that will help it realize its vision of a student-centric system where students are supported in their learning by highly effective teachers, families and communities, school and district administrators and state level partners. More specifically, we are committed to supporting the four key elements of the Race to the Top reform agenda:

- adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace
- recruiting, developing, retaining, and rewarding effective teachers and principals
- building data systems that measure student success and inform teachers and principals how they can improve their practices
- turning around our lowest-achieving schools

The reforms needed in Kentucky education now, as in 1990 with the Kentucky Education Reform Act, require the support of all stakeholder groups to be effectively implemented. We know that many improvements are needed in our educational systems, with a particular need to:

- Encourage equal opportunity in recruitment and promotion;
- Continuously be mindful of issues related to achievement gaps, the need for minority role models in educational institutions, and the guarantee that the voices

Terry Holliday  
January 13, 2010  
Page 2

of citizens from all walks of life are considered in implementing future educational programs and processes.

It is with this commitment to Kentucky's education vision in mind that our organization is pleased to commit our support of Kentucky's Race to the Top application. In addition to our commitment to the application, our organization also commits to support the initiatives in the application by:

- Using our offices to help reach out to individuals who have historically been denied equal access in order to ensure that they understand the plan and can be an integral part of the continuing process;
- Making the resources of our offices available to assist the Department of Education in ensuring equal opportunity in all of our educational systems;
- Continuing to monitor and encourage Kentucky's school systems so that they will be mindful of reflecting the composition of the communities in which they are located; and
- Helping to ensure that all citizens, particularly those who fall within the protected classes (race, color, sex, disability, national origin, religion, and age over 40) are familiar with the plan and understand the value of its components.

We appreciate your leadership in this effort. It is that leadership that will be crucial as we work together to provide the young people of our state with the best education possible. We look forward to supporting your efforts in every way possible.

Sincerely,



John J. Johnson  
Executive Director

JJJ/kcd



UNIVERSITY OF KENTUCKY

**Office of the President**

101 Main Building  
Lexington, KY 40506-0032  
(859) 257-1701  
Fax: (859) 257-1760  
[www.uky.edu](http://www.uky.edu)

January 4, 2010

Dr. Terry Holliday  
Kentucky Department of Education  
500 Mero Street  
1<sup>st</sup> Floor – Capital Plaza Tower  
Frankfort, Kentucky 40601

Dear Commissioner Holliday:

The University of Kentucky (UK) strongly supports Kentucky's vision for our children's education, and specifically the state's application for *Race to the Top* funding. It is with this commitment to Kentucky's education vision and the opportunity to secure substantial funding for that vision in mind that we are pleased to commit our support for *Kentucky's Race to the Top* application in the following ways:

- UK will provide \$1.5 million over three years to create the *Kentucky P20 Innovation Lab: A Partnership for Next Generation Learning* housed in the College of Education designed to (1) recruit and prepare highly effective and transformative teachers and school leaders; (2) provide ongoing, internationally-recognized best practices in professional development to existing teachers and school leaders with particular attention to educators in the lowest-achieving schools; (3) conduct innovative educational research; and (4) translate research findings into innovative educational practices emphasizing higher-order thinking and 21<sup>st</sup> century skills.
- Help develop and house the Kentucky P20 Data Base designed to measure individual student data tracked over time and to inform teachers and principals on how they can improve their practice.
- Continue support for the extensive network of partnerships built to improve science, technology, engineering, and mathematics (STEM) education through the campus-wide Partnership Institute for Mathematics and Science Educational Reform (PIMSER); Project Lead The Way, and the new STEM Education department in the College of Education. These partnerships are designed to substantially improve P-20 STEM education through federal, state, and foundation-funded programs that target teacher recruitment and preparation, statewide professional development and leadership training, and innovative engagement projects between higher education and P-12 faculty that address specific school and district-level educational needs.
- Support the nation's workforce and economic development efforts by leading the national science and mathematics teacher initiative (SMTI) of the Association of Public and Land-Grant Universities (APLU) whose goal is to greatly increase the number and quality of each

state's P-12 science and mathematics teachers. President Lee Todd was selected to lead this initiative within a newly created unit of the APLU.

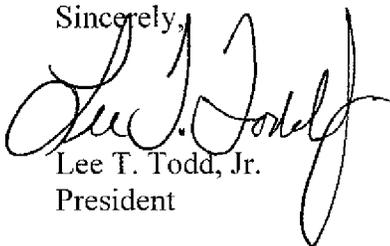
We fully support the framework for the future of education in Kentucky that puts students at the center, with clear knowledge of what they will need to be ready for college and careers. Nurturing those students are effective teachers, who are supported by engaged communities and school leaders. Those school communities are nested within districts, providing supports and connections to best practices. State level partners, including colleges and universities, stand ready to support these efforts to make sure that students in the state can meet the increasing demands of the global society in which they live.

We are also aware of your commitment to this vision as well as that of the General Assembly by virtue of the passage of Senate Bill 1 during the 2009 session.

We understand that the federal *Race to the Top* program can provide the funding necessary to ensure that this great vision for education can be accomplished by: (1) adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace; (2) recruiting, developing, retaining, and rewarding effective teachers and principals; (3) building data systems that measure student success and inform teachers and principals how they can improve their practices; and (4) turning around our lowest-achieving schools.

Thank you for your leadership in uniting Kentucky around a comprehensive vision to provide every child – from early childhood through adolescence - with the best education possible. We welcome the opportunity to collaborate and share resources to ensure success and sustainability of this vision.

Sincerely,

A handwritten signature in black ink, appearing to read "Lee T. Todd, Jr.", written in a cursive style.

Lee T. Todd, Jr.  
President



The **Courage** to Question Convention.  
The **Passion** to Break New Ground.  
The **Insight** to Champion Community.  
The **Imagination** to Pursue the Undiscovered.  
The **Will** to Achieve Greatness.  
The **Promise** of a Limitless Future.  
The **People** to Bring It to Life.  
**It's Happening Here.**

January 12, 2010

Dr. Terry Holliday, Commissioner  
Kentucky Department of Education  
500 Mero Street  
1<sup>st</sup> Floor – Capital Plaza Tower  
Frankfort, Kentucky 40601

Dear Commissioner Holliday:

The University of Louisville is writing to pledge its support to Kentucky's vision for education in the future, and specifically the state's application for Race to the Top funding. We believe this funding will ensure the vision is achieved.

We know that Kentucky has set forth a framework for the future of education in Kentucky that puts students at the center, with clear knowledge of what they will need to be ready for college and career. Supporting those students are effective teachers, who are supported by engaged communities and school leaders. Those school communities are nested within districts, providing supports and connections to best practices. State level partners, including colleges and universities, stand ready to support these efforts to make sure that students in the state can meet the increasing demands of the global society in which they live.

We are also aware of your commitment and that of the General Assembly to this vision by virtue of the passage of Senate Bill 1 during the 2009 session.

The federal Race to the Top program then provides the funding necessary to ensure that this great vision for education can be accomplished by:

- adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace;
- recruiting, developing, retaining, and rewarding effective teachers and principals;
- building data systems that measure student success and inform teachers and principals how they can improve their practices; and
- turning around our lowest-achieving schools.

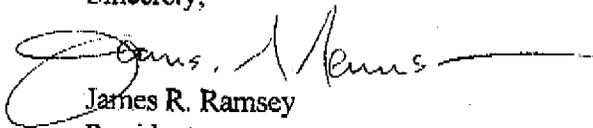
With this commitment to Kentucky's education vision, and the opportunity to secure substantial funding for that vision, we are pleased to commit our support for Kentucky's Race to the Top application. In addition, to support the initiatives of the application we will also support the vision in

Dr. Terry Holliday  
January 12, 2010  
Page Two

the following ways: a) through Race To The Top funding , the University of Louisville can provide professional development based upon the new core content standards; b) provide its expertise to improve principal and teacher effectiveness; and c) be an active partner in turning around low-performing schools.

Thank you for your leadership as we work to provide the young people of our state the best education possible. We look forward to our collaboration to meet the goals you have set forth.

Sincerely,



James R. Ramsey  
President



## EASTERN KENTUCKY UNIVERSITY

*Serving Kentuckians Since 1906*

Office of the President

Coates Box 1A, 107 Coates Building  
521 Lancaster Avenue  
Richmond, KY 40475-3102  
(859) 622-2101 • FAX (859) 622-2196  
[doug.whitlock@eku.edu](mailto:doug.whitlock@eku.edu)

January 4, 2010

Dr. Terry Holliday, Commissioner  
Kentucky Department of Education  
500 Mero Street  
1<sup>st</sup> Floor – Capital Plaza Tower  
Frankfort, Kentucky 40601

Dear Commissioner Holliday:

I am writing on behalf of Eastern Kentucky University to pledge our unqualified support to Kentucky's vision for the future of education in the Commonwealth, and specifically the state's application for Race to the Top funding. We believe this funding will ensure the vision is achieved.

We have watched and participated as Kentucky has advanced a framework for the future of education in Kentucky that puts students at the center, with clear knowledge of what they will need to be ready for college and career. As a long-time member of the Madison County Board of Education and consultant with Kentucky school districts, I understand the role of each component required for achieving success in student achievement. These include effective teachers, building principals and superintendents who are educational leaders with high expectations, engaged parents and communities, and state level leadership. Among those level partners are the Commonwealth's colleges and universities. Eastern Kentucky University, with its long tradition of teacher and school leader education, remains ready to support these efforts to make sure that students in the state can meet the increasing demands of the global society in which they live.

We also support your commitment and that of the General Assembly to this vision by virtue of the passage of Senate Bill 1 during the 2009 session.



January 4, 2010

Page 2

The federal Race to the Top program then provides the funding necessary to ensure that this great vision for education can be accomplished by:

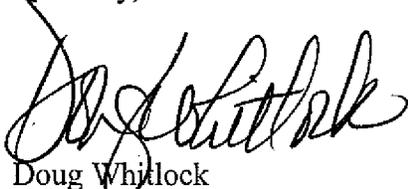
- adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace
- recruiting, developing, retaining, and rewarding effective teachers and principals
- building data systems that measure student success and inform teachers and principals how they can improve their practices
- turning around our lowest-achieving schools

It is with this commitment to Kentucky's education vision and the opportunity to secure substantial funding for that vision in mind that we are pleased to commit our support for Kentucky's Race to the Top application. Some of our current efforts fit well within the Race to the Top application's scope.

We believe that the initial success of our Math Transitions program indicates that it will be an important tool in helping incoming students meet college readiness standards. In fact, its success has encouraged our work to initiate a similar program for reading. I am excited about the professional learning community-like relationship this process is building between our faculty and their counterparts in the public schools. Also, the partnership being forged between Eastern Kentucky University, Morehead State University and the community and independent colleges in our two combined service regions is focusing its initial efforts on professional development for teachers.

Thank you for your leadership as we work to provide the young people of our state the best education possible. We look forward to our collaboration to meet the goals you have set forth.

Sincerely,



Doug Whitlock  
President





# Kentucky State University

*Office of the President*

January 6, 2010

Dr. Terry Holliday, Commissioner  
Kentucky Department of Education  
500 Mero Street  
1<sup>st</sup> Floor – Capital Plaza Tower  
Frankfort, Kentucky 40601

Dear Commissioner Holliday:

As President of Kentucky State University, I am writing to pledge KSU's support to Kentucky's vision for education in the future, and specifically the state's application for "Race to the Top" funding. We believe this funding will ensure the vision is achieved.

We know that Kentucky has set forth a framework for the future of education in Kentucky that puts students at the center, with clear knowledge of what they will need to be ready for college and career. Supporting those students are effective teachers, who are supported by engaged communities and school leaders. Those school communities are nested within districts, providing supports and connections to best practices. State level partners, including colleges and universities, stand ready to support these efforts to make sure that students in the state can meet the increasing demands of the global society in which they live.

We are also aware of your commitment and that of the General Assembly to this vision by virtue of the passage of Senate Bill 1 during the 2009 session.

The federal Race to the Top program then provides the funding necessary to ensure that this great vision for education can be accomplished by:

- adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace
- recruiting, developing, retaining, and rewarding effective teachers and principals
- building data systems that measure student success and inform teachers and principals how they can improve their practices
- turning around our lowest-achieving schools

Suite 201, Hume Hall  
(502) 597-6260

400 East Main Street

Frankfort, Kentucky 40601  
[www.kysu.edu](http://www.kysu.edu)

Dr. Terry Holliday, Commissioner  
January 6, 2010  
Page Two

It is with this commitment to Kentucky's education vision and the opportunity to secure substantial funding for that vision in mind that we are pleased to commit our support for Kentucky's Race to the Top application. In addition, to support the initiatives of the application we will also support the vision in the following ways:

- Continue to work with local schools to provide courses to help students be college ready;
- Provide "just-in-time" professional development training and information;
- Provide specialized feedback to schools on performance of students in specific college coursework; and,
- Partner with local school districts to work with college aspirations and preparation in their lowest-achieving schools.

Thank you for your leadership as we work to provide the young people of our state the best education possible. We look forward to our collaboration to meet the goals you have set forth.

Sincerely,

A handwritten signature in cursive script that reads "Mary Evans Sias".

Mary Evans Sias, Ph.D.  
President



OFFICE OF THE PRESIDENT

202 HOWELL-MCDOWELL AD. BLDG.  
 MOREHEAD, KENTUCKY 40351-1689  
 TELEPHONE: 606-783-2022  
 FAX: 606-783-2216

January 4, 2010

Dr. Terry Holliday, Commissioner  
 Kentucky Department of Education  
 500 Mero Street  
 1<sup>st</sup> Floor – Capital Plaza Tower  
 Frankfort, Kentucky 40601

Dear Commissioner Holliday:

Morehead State University is writing to pledge its support to Kentucky's vision for education in the future, and specifically the state's application for Race to the Top funding. We believe this funding will ensure the vision is achieved.

We know that Kentucky has set forth a framework for the future of education in Kentucky that puts students at the center, with clear knowledge of what they will need to be ready for college and career. Supporting those students are effective teachers, who are supported by engaged communities and school leaders. Those school communities are nested within districts, providing supports and connections to best practices. State-level partners, including colleges and universities, stand ready to support these efforts to make sure that students in the state can meet the increasing demands of the global society in which they live.

We are also aware of your commitment and that of the General Assembly to this vision by virtue of the passage of Senate Bill 1 during the 2009 session.

The federal Race to the Top program then provides the funding necessary to ensure that this great vision for education can be accomplished by:

- Adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace
- Recruiting, developing, retaining, and rewarding effective teachers and principals
- Building data systems that measure student success and inform teachers and principals how they can improve their practices
- Turning around our lowest-achieving schools

It is with this commitment to Kentucky's education vision and the opportunity to secure substantial funding for that vision in mind that we are pleased to commit our support for Kentucky's Race to the Top application. In addition, to support the initiatives of the application, MoSU will also support the vision in the following ways:

- To coordinate with P-12 schools to address improving student achievement, MoSU's College of Education has developed a Regional Engagement Model which supports the vision of Race to the Top, provides co-planning so that teacher preparation programs at



Dr. Terry Holliday  
Page 2  
January 4, 2010

the initial and advanced levels are field-based and center on the needs of K-12 students and their achievement.

- To improve teacher practice and student achievement, the MoSU Teacher Leader MA program is grounded in P-12 collaborations, with candidates, P-12 leaders, and university faculty co-developing individualized learning plans, providing job-embedded coursework and professional development based on student, classroom, and school data.
- To turn around our lowest-achieving schools and to improve teacher practice and student achievement, the College of Education has developed a unique practitioner Ed.D. program which is field based, individualized, and requires co-planning with the candidate's school leaders, Teacher Leader MA candidates, and university faculty.
- To turn around our lowest-achieving schools and to improve teacher practice and student achievement through the use of data systems, the College of Education has developed the 21<sup>st</sup> Century Education Enterprise, a not-for-profit professional development center that collaborates with Eastern Kentucky schools on strategic planning, data retreats, and professional development to address increasing student achievement.

Thank you for your leadership as we work to provide the young people of our state the best education possible. We look forward to our collaboration to meet the goals you have set forth.

Sincerely,



Wayne D. Andrews  
President



Office of the President  
218 Wells Hall  
Murray, KY 42071-3318  
270.809.3763  
270.809.3413 fax

[www.murraystate.edu](http://www.murraystate.edu)

January 6, 2009

Commissioner Terry Holliday  
Kentucky Department of Education  
500 Mero Street  
1<sup>st</sup> Floor – Capital Plaza Tower  
Frankfort, KY 40601

Dear Commissioner Holliday:

Murray State University is pleased to support the application for the Commonwealth of Kentucky for *Race to the Top* funding.

Kentucky has set forth a framework that places students at the center and provides them with clear knowledge of the preparations necessary to succeed in college and in a career. Supporting those students locally are highly effective teachers, who are in turn supported by engaged communities and school leaders. As a public state university, Murray State wholeheartedly supports efforts to prepare all of Kentucky's students for the increasing demands of the global society.

Any opportunity for Kentucky to improve educational services offered to the students of the Commonwealth should be explored. For that reason, Murray State is proud to support Kentucky's *Race to the Top* application as one mechanism by which additional funding can be secured to support students.

Thank you for your leadership as we work at all educational levels to provide the young people of Kentucky with the best education possible.

Sincerely,

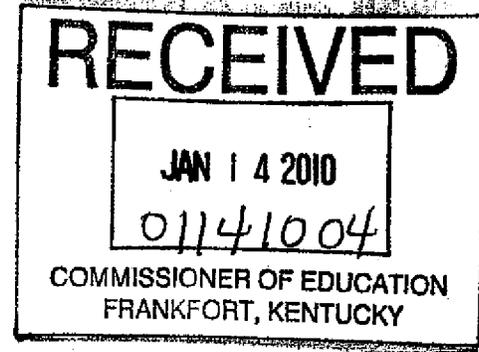
Randy J. Dunn  
President



Association of Independent Kentucky Colleges & Universities  
484 Chenault Road, Frankfort, Kentucky 40601  
V 502-695-5007 F 502-695-5057  
www.aikcu.org

January 11, 2010

Commissioner Terry Holliday  
Department of Education  
500 Mero Street  
1<sup>st</sup> Floor Capital Plaza Tower  
Frankfort, KY 40601



Dear Commissioner Holliday,

The Association of Independent Kentucky Colleges and Universities (AIKCU) strongly supports the Kentucky Race to the Top application. We especially look forward to working collaboratively with you and other education partners in implementing grant objectives should our application be funded.

The Kentucky application builds on two highly effective reform initiatives, the innovative elementary and secondary education reforms embodied in the 1990 Kentucky Educational Reform Act—KERA—which ushered in a series of badly needed educational improvements; and the far-reaching 1997 Postsecondary Education Reforms that recast the state's higher education agenda by committing colleges and universities to the achievement of a series of critically important statewide goals.

Implementing these previous reforms has improved student achievement and increased collegiate enrollment and graduation rates, but much more needs to be done. The Kentucky Application builds on these improvements by embracing Race to the Top key elements and incorporating them in our application. The key elements include:

- adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace;
- recruiting, developing, retaining, and rewarding effective teachers and principals;
- building data systems that measure student success and inform teachers and principals how they can improve their practices; and
- turning around our lowest-achieving schools.

Alice Lloyd College  
Asbury College  
Bellarmine University  
Berea College

Brescia University  
Campbellsville University  
Centre College  
Georgetown College

Kentucky Christian University  
Kentucky Wesleyan College  
Lindsey Wilson College  
Mid-Continent University

Midway College  
Pikeville College  
St. Catharine College  
Spalding University

Thomas More College  
Transylvania University  
Union College  
University of the Cumberlands

Commissioner Terry Holliday

Page 2

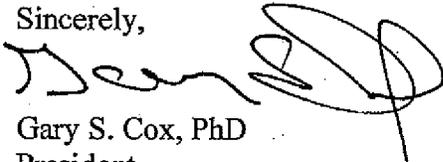
January 14, 2010

The atmosphere of cooperation and willingness to include our sector in development of the Race to the Top application bodes well for its successful implementation should it be funded. Kentucky's independent colleges and universities have a history of collaborating with the Department of Education, the Educational Professional Standards Board and the Council on Postsecondary Education. We are committed to building on this history of collaboration in achieving the objectives articulated in the Race to the Top proposal.

The success of the existing culture of collaboration is evident in the critical role AIKCU member institutions play in Kentucky's education and workforce development pipelines. We produce 22 percent of Kentucky's bachelor's degrees and even higher percentages in critical fields like math and science. All twenty AIKCU members offer quality teacher preparation programs under the authority of the Educational Professional Standards Board, producing 25 percent of Kentucky's new teachers each year. We serve large numbers of high need and underserved students – 40 percent of our students qualify for federal Pell grants – and many of our campuses are located in areas of the state with limited postsecondary opportunities.

This history of collaboration has been nurtured by state leaders' willingness to recognize certain unique characteristics of independent colleges and to accommodate them where possible. We also make every effort to recognize and accommodate state leaders' needs by taking innovative steps to maximize our role in meeting state objectives. We are committed to building on this atmosphere of mutual respect as we work in tandem to achieve the objectives set out in Kentucky's Race to the Top application.

Sincerely,



Gary S. Cox, PhD  
President

cc: Governor Steve Beshear  
Robert King  
Phil Rogers  
AIKCU Presidents



*Listening. Learning. Leading.*

Educational Testing Service  
Policy Evaluation & Research  
Center  
Rosedale Road - MS 19-R  
Princeton, NJ 08541

January 12, 2010

Dr. Terry Holliday, Commissioner  
Kentucky Department of Education  
500 Mero Street  
1<sup>st</sup> Floor – Capital Plaza Tower  
Frankfort, Kentucky 40601

**Michael T. Nettles**  
*Senior Vice President  
and Edmund W. Gordon  
Chair, Policy Evaluation  
and Research Center*  
Phone: (609) 734-1236  
Fax: (609) 734-5960  
Cell: (609) 439-6055  
Email: [mnetties@ets.org](mailto:mnetties@ets.org)

Dear Dr. Holliday:

We are writing to express our enthusiastic support for the Kentucky Race to the Top proposal to the U.S. Department of Education.

ETS PERC would be interested in partnering with the Kentucky Department of Education to bring about needed improvements in the professional development of school teachers and leaders as it pertains to the use of formative assessment in the classroom and strengthening instruction in elementary and middle schools, with a particular focus on mathematics. The ultimate goals of our contribution are:

- Increasing student achievement in mathematics, as reported by the NAEP and the assessments required under the ESEA; and
- Decreasing achievement gaps between subgroups in mathematics, as reported by the NAEP and the assessments required under the ESEA.

ETS PERC proposes to actualize these goals by expansion of the SITES-M project beyond the current consortium. Specific elements include:

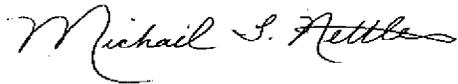
1. Creating a statewide umbrella organization whose focus is on identifying, sharing, and providing training in best practices on elementary and middle mathematics;
2. Collecting and analyzing data, and making recommendations for program modifications;
3. Hosting an annual two-week summer professional development institute for in-service teachers that focuses on strengthening content knowledge of mathematics as well as knowledge of mathematics for teaching;
4. Coordinating Saturday mathematics workshops which will serve to support teachers' efforts to improve instruction and reinforce the learning from the summer professional development institutes;
5. Training in and implementation of *Keeping Learning on Track* (KLT) assessments for learning, as well as implementing Teacher Learning Communities (TLCs);
6. Training in the use of Educational Testing Service's standardized observation protocols;
7. Creating Mathematics Challenges – age and grade-appropriate formative assessments for K-8 students, aligned with newly revised state mathematics standards; and

8. Reviewing and strengthening of curricula and course requirements in colleges and universities that prepare pre-service teachers of elementary and middle school students.

We are committed to improving teaching and learning for all children in this nation and around the world. We look forward to working closely with the Kentucky Department of Education to achieve the Race to the Top goals in schools across the State.

We thank you for your consideration to be your partners in this significant enterprise, and we look forward to discussing your interest in our collaboration in the near future.

Sincerely,

A handwritten signature in cursive script that reads "Michael T. Nettles". The signature is written in black ink and is positioned above the printed name.

Michael T. Nettles, PhD  
Senior Vice President and Edmund W. Gordon Chair



December 21, 2009

325 N. St Paul Street  
Suite 2900  
Dallas, Texas 75201  
Telephone 214/665-2548  
Facsimile 214/665-2525  
nationalmathandscience.org

Dr. Terry Holliday  
Commissioner of Education  
Kentucky Department of Education  
Office of Leadership and School Improvement  
500 Mero Street  
Capital Plaza Tower, 17th Floor  
Frankfort, KY 40601

Dear Commissioner:

We are pleased to share our strong support for Kentucky's Race to the Top. The National Math and Science Initiative (NMSI) was founded in 2007 to scale up programs proven to show marked increases in rigorous student achievement in math and science. We recognize the many close connections of our Kentucky affiliate, AdvanceKentucky, to the priorities set out by the federal request for proposals.

Kentucky's outstanding, demonstrated leadership has proven its mettle by successfully establishing all systems needed to replicate the NMSI AP Teacher Training and Incentive Program (APTTIP). AdvanceKentucky has aggressively expanded the program in just two years to 28 schools currently serving nearly 6,000 student enrollments in Advanced Placement (AP) mathematics, science and English classes.

AdvanceKentucky has increased student performance on AP exams in math, science, and English among participating schools by 79 percent in just one year (from 2008 to 2009), which is 14 times the national rate of growth. In that same year Kentucky ranked second in the nation in percent growth in passing scores on national AP math, science and English Exams.

Especially with this proven performance, we enthusiastically applaud including in Kentucky's Race to the Top even more dramatic expansion of the number of schools participating in AdvanceKentucky. Moreover, we commit NMSI's continued support under our existing six-year award to AdvanceKentucky, an initiative of the non-profit Kentucky Science and Technology Corporation (KSTC). Our award to states stipulates a matching funds component that incents our partners to scale up while at the same time demonstrating high levels of student performance in STEM fields and English. Kentucky's Race to the Top STEM focus through AdvanceKentucky is a highly sustainable approach involving KSTC's vast experience and demonstrated success.

Our current relationship with KSTC epitomizes the top caliber of dynamic innovative partners that we sought in scaling up APTTIP under a national competition. They have executed flawlessly the academic program, accountability and financial systems expected by NMSI and our national board of directors and donors.

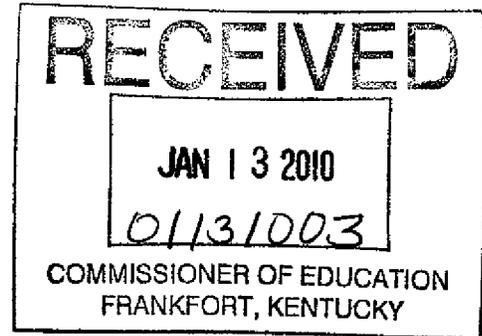
We stand as your partner in Kentucky's Race to the Top.

Sincerely,

Tom Luce  
Chief Executive Officer

(b)(6)

John Winn  
Chief Program Officer



January 11, 2010

Terry Holliday, Ph.D.  
Kentucky Commissioner of Education  
Kentucky Department of Education  
500 Mero Street – 1<sup>st</sup> Floor  
Frankfort, Kentucky 40601

Dear Terry:

I have heard that the State of Kentucky will be submitting a proposal for one of the Race to the Top Grants.

If any state deserves an award, it's Kentucky. And why? Because Kentucky, under your leadership, will do something no other state plans to do or can do. And that's to use a methodology called "Process Management" to improve the efficiency and effectiveness of the Kentucky State Department of Education. And, to be sure that the K-12 districts in the nation are trained and coached to do the same.

I say this with a strong conviction for two reasons:

One: You led the Iredell-Statesville School District to win the Malcolm Baldrige National Quality Award, and there have been only 5 education institutions in the nation that have achieved this level of excellence. It wouldn't have happened had You not been the Superintendent.

Two: You and the Iredell-Statesville school district were one of the 8 school districts in the nation who participated in an APQC year-long pilot project to show that "Process Management" could produce results in a K-12 school district, and could achieve great improvements in both the curriculum and operations side.

You weren't a Superintendent that assigned this to others, and then walked away. You led the project personally, including spending time working on details with flip charts and action planning with your staff and with APQC. I saw that you were not only a leader, but one who rolled up his sleeves and helped execute.. I would say that you are as good a CEO as any leader in the business or education world.

In working with you, I have seen that when you have a passion about something, you get it done. That's why I know that, if Kentucky is awarded a grant, you will make it work. Kentucky would be the first state in the whole nation that would manage its own Department of Education efficiently and effectively, and I know you will see that the districts in the state are involved , trained, and coached.

I strongly support Kentucky's grant application for the Race to the Top.

Sincerely,

(b)(6)

C. Jackson Grayson, Jr.  
Chairman

FELIX E. MARTIN JR.  
FOUNDATION

RECEIVED

JAN 8 2010

01081003

COMMISSIONER OF EDUCATION  
FRANKFORT, KENTUCKY

January 6, 2010

Dr. Terry Holliday, Commissioner  
Kentucky Department of Education  
100 Capital Plaza Tower  
500 Mero Street  
Frankfort, KY 40601

Dear Dr. Holliday:

As a member of the philanthropic community, I write on behalf of the Board of Directors of the Felix E. Martin, Jr. Foundation. We commend Kentucky on its efforts to lead the charge for education reform and pledge our support for education in the Commonwealth of Kentucky.

Our benefactor, the late Felix E. Martin, Jr., was the son of a former schoolteacher and librarian. Thus, he knew the value of a good education. Mr. Martin left specific instructions in his will to ensure that a significant portion of his \$60 million estate would support education. Today, as he instructed, the Felix E. Martin, Jr. Foundation continues to work to meet the education, civic and cultural needs of Muhlenberg County, Kentucky.

In honor of Mr. Martin's wishes, his estate and the Foundation have made a significant effort to improve the quality of education that Muhlenberg County youth receive. Together, the estate and the Foundation have distributed almost \$7 million in grants to the Muhlenberg County School District as well as higher education institutions like the University of Kentucky and Madisonville Community College.

We are aware that Kentucky has set forth a framework for the future of education in Kentucky that puts students at the center, with clear knowledge of what they will need to be ready for college and career. We are also aware of both your commitment and the General Assembly's commitment to this vision by virtue of the passage of Senate Bill 1 during the 2009 legislative session and Kentucky's pursuit of federal *Race to the Top* grants.

We commend you for your diligent efforts to continue to improve education in Kentucky, and we offer our support of these important programs. We will continue to focus on the importance of education while collaborating with other philanthropic entities to support education initiatives. We look forward to continuing to support your efforts to reform Kentucky's education system now and in the future.

Sincerely,

(b)(6)

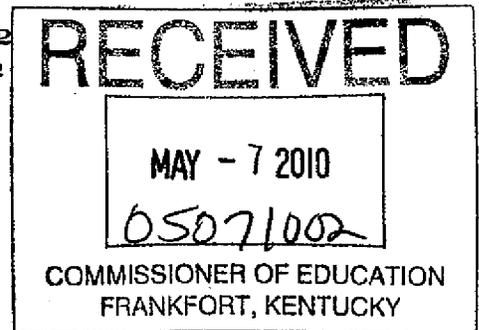
Kathy Steward Jacobi  
Secretary  
Board of Directors

# THE GHEENS FOUNDATION INC.

705 ONE RIVERFRONT PLAZA  
401 WEST MAIN STREET  
LOUISVILLE, KENTUCKY 40202  
(502) 584-4650 FAX (502) 584-4652  
WWW.GHEENSFOUNDATION.ORG

May 6, 2010

Dr. Terry Holiday  
Commissioner  
Kentucky Department of Education  
500 Mero Street  
Frankfort, Kentucky 40601



Dear Dr. Holiday,

I am pleased to write this letter of support for Kentucky's second round Race to the Top application. The Gheens Foundation has long been a supporter of public education in Louisville. Since our founding in 1957, we have made over \$10 million in grants to the Jefferson County Public Schools. Indeed, our signature achievement was providing \$2.2 million to create the Gheens Academy for Professional Development at JCPS. The Gheens Academy has attained regional and national acclaim for its achievements. We recently committed an additional \$2 million to start the Gheens Institute within the Gheens Academy, which is developing scalable innovations in public urban education.

Kentucky has adopted new, nationally developed common core standards for math and language arts. Senate Bill 1 required the development of internationally competitive standards in the sciences, social studies and the arts. The Commonwealth has made strong commitments to grow STEM capabilities. Intervention systems have been established to deal with failing schools. There is broad collaboration with higher education in the professional development of teachers. Longitudinal data will be available to support assessments.

As we look to the future, we can find no endeavor more important than investing in public education. As a leading member of the philanthropic community, the Gheens Foundation pledges its continued support for education in the Commonwealth. Kentucky, more than ever, needs the support of all sectors of the community to ensure that our students can meet the increasing demands of a global economy.

Please let me know if you have any questions or comments.

Sincerely,

Carl M. Thomas  
Executive Director

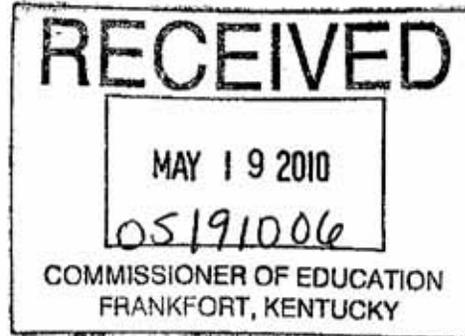


**Paul J. Curlander, Ph.D.**  
Chairman and Chief Executive Officer

Lexmark International, Inc.  
One Lexmark Centre Drive  
Lexington, KY 40550  
USA  
Phone: 859 232 6400  
Fax: 859 281 9977  
E-mail: curlande@lexmark.com

May 14, 2010

Commissioner Terry Holliday  
Kentucky Department of Education  
500 Mero Street  
Frankfort, KY 40601



Commissioner Holliday:

Lexmark International, Inc. is pleased to offer its support for Kentucky's Race to the Top application.

Headquartered in Lexington, Ky., we rely on highly skilled and qualified engineering and technical talent to further our company's mission of providing businesses of all sizes with a broad range of printing and imaging products, solutions and services that help them to be more productive. Our core philanthropic focus is specifically on the STEM disciplines and the importance of not only expanding, but enhancing these capabilities in our secondary schools.

We are aware of the current efforts in place to further training in Kentucky. Project Lead the Way and Advance Kentucky train teachers to better teach in these subjects and encourage schools to offer Advanced Placement courses in these subjects. Both have successfully increased the number of students enrolled in these courses and the number who successfully pass the AP exams, including minority and low income children.

We fully support the opportunity to expose more students and teachers to the necessary programs that will allow Kentucky to increase its educational STEM goals. As you continue the application process, please do not hesitate to contact us should you require more information. We wish you the best of luck with this outstanding initiative.

Best Regards,

(b)(6)

Paul J. Curlander



## Kentucky Chamber

*Uniting Business. Advancing Kentucky.*

May 20, 2010

Dave Adkisson  
President & CEO

Dr. Terry Holliday  
Commissioner  
Kentucky Department of Education  
118 Capital Plaza Tower  
500 Mero Street  
Frankfort, KY 40601

Dear Dr. Holliday,

On behalf of the Kentucky Chamber of Commerce, I would like to share our enthusiastic support for Kentucky's Race to the Top application.

During our 60 year history, the Kentucky Chamber of Commerce has become the premier business association in the state. Today, the Kentucky Chamber represents 2,700 member businesses – from family-owned shops to Fortune 500 companies – that employ over half of the Commonwealth's workforce. The Chamber's number one public policy goal is, and has been for many years, to improve the educational attainment level of Kentuckians and the state's current Race to the Top application will help achieve this goal.

The business community understands Kentucky's economic viability is directly linked to the education and skills of our citizens. We were supportive of policy makers during the nationally recognized education reforms in the 1990s in both K-12 and postsecondary education systems and pleased with the passage of Senate Bill 1 in 2009. This bill requires the development of internationally competitive standards in the sciences, social studies, and the arts and exhibits Kentucky's commitment to integrate the education system and the needs of the economy. The business community support continues today as Kentucky seeks to obtain funding for its current education endeavors.

With Race to the Top support, Kentucky can continue to improve the education system to prepare students for a global economy. The Chamber is particularly impressed with the focus on science, technology, engineering and math (STEM) innovations and the adoption of nationally developed and internationally benchmarked standards noted in the grant application. The formalized collaboration between K-12 and higher education professionals, evident in the application, further strengthens Kentucky student's chances of success as they enter the workforce.

The Kentucky Chamber pledges our best efforts to support this important work and sustain it both during and after the grant period. We understand the ramifications of a stagnant and outdated education system and feel the state is ready and willing to make advancements to ensure the system delivers excellence for each and every Kentucky child.

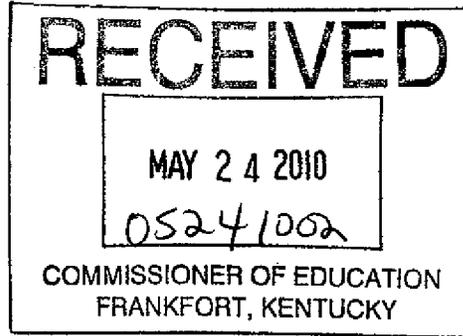
Sincerely,

Dave Adkisson  
President and CEO

**United Way  
of the Bluegrass**

*Serving Anderson, Bourbon, Clark, Fayette, Jessamine, Madison,  
Montgomery, Scott and Woodford counties*

2480 Fortune Drive #250  
Lexington, Kentucky 40509  
tel 859.233.4460  
fax 859.259.3397  
www.uwb.org



May 21, 2010

Dr. Terry Holliday  
Commissioner of Education  
Kentucky Department of Education  
1<sup>st</sup> Floor, Capital Plaza Tower  
500 Mero Street  
Frankfort, KY 40601

Dear Commissioner Holliday:

On behalf of United Way of the Bluegrass (UWBG), I am pleased to offer our enthusiastic support for Kentucky's Race to the Top application. Serving a nine-county region in Central Kentucky which includes eleven public school districts, UWBG looks forward to partnering with our local districts and the Kentucky Department of Education on the implementation of the Race to the Top efforts.

UWBG's mission is to improve lives by mobilizing the caring power of communities. It accomplishes this through advancing the common good by focusing on education, income and health. Our work in education is to mobilize the community to support the educational goals of the Commonwealth and our individual districts. This is often accomplished through out-of-school time programs and services including enhanced/advanced learning opportunities, mentoring, tutoring, service learning, engagement with parents and other caregivers and providing critical basic needs to families. With a constant eye towards innovations that improve our impact, these same types of strategies would be leveraged in support of the Commonwealth's Race to the Top goals.

UWBG recognizes the important role every community member has in ensuring all our children receive the education that prepares them and our community for the opportunities of today and tomorrow. For that reason, we are pleased to bring the caring power of our network of health and human service providers, businesses and their workforces, individual philanthropists, faith-based partners and many others to the work of Race to the Top. Importantly, in return, the Race to the Top efforts and resources will help our community expedite the critical work to ensure all children reach their potential.

If you have any questions about our support of this application, please do not hesitate to contact me.

Sincerely,

Bill Farmer  
President

## The Next Era in Kentucky Educational Progress

*A position paper from the Kentucky Department of Education and the Kentucky Board of Education*

### Executive Summary

Kentucky's educational progress depends on a strong, valid and reliable system of assessment and accountability. The development of higher, clearer, fewer and narrower academic standards is just the first step in a process that will lead to a system that provides valuable, usable data for many stakeholders. A robust, viable system will maintain Kentucky's work to lead students to proficiency and beyond.

This position paper outlines the state's plan and vision for the next generation of assessment and accountability. It is a collaborative effort among many groups and individuals, and it contains input from many sources.

Five key principles guided the development of this document:

1. Development of standards must happen before the selection or creation of the assessment.
2. The annual state assessment system must provide diagnostic, longitudinal growth data and overall proficiency levels at the individual student level.
3. The annual state assessment must measure both the knowledge and higher-level thinking required by the standards.
4. The annual state assessment should be built to support interim and classroom assessments.
5. Accountability is necessary for ongoing educational improvement.

The goal of this document is to provide a framework upon which Kentucky's student, school and district assessment and accountability system can be designed.

This document was reviewed by and includes input from numerous education stakeholders.

### *A Call to Action*

The world Kentucky students face when they leave our classrooms today is drastically different from the one high school graduates encountered nearly two decades ago when the state's 20th-century educational reforms were first enacted. It is time to make significant changes to the educational system to ensure that every Kentucky student acquires the skills required in the 21st century to be successful in the global economy.

A comprehensive and well-balanced assessment system that assures concrete knowledge, critical thinking, creativity, adaptability and initiative – skills that are crucial to today's success – can serve as the engine that drives progress into the next era. This assessment system must meet the many requirements outlined by state and federal law -- specifically, the federal No Child Left Behind (NCLB) Act of 2001, on which at least \$214 million in federal funding hinges -- and provide balanced assessment and accountability. The work begins with a well-planned standards revision process followed immediately by teacher training and, ultimately, the revision of curriculum and instructional practices.

To that end, the Kentucky Department of Education (KDE) stands ready to meet these new challenges and design the next generation of standards, assessment and accountability.

### *Streamlined Educational Standards, Beginning with Mathematics*

At the heart of the needed changes is a hard look at the curriculum standards that are currently in place. While these content standards were revised as recently as 2006, recent developments and research, especially in mathematics, call for immediate action.

The Kentucky Department of Education has been involved in various initiatives through several national organizations that have all led to the same definitive conclusion: *Focus and improvement is needed in mathematics standards and assessments to better enable students to succeed in the international economy of the 21st century.*

KDE agrees with the assertion from recent publications, such as the National Council of Teachers of Mathematics' (NCTM) *Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics*, that "lacking clear, consistent priorities and focus, teachers stretch to find the time to present important mathematical topics effectively and in depth." KDE contends that this is the case across all content areas, but agrees that mathematics is the area of most urgent concern and the place to begin standards revision.

KDE is working with a 15-state consortium facilitated by the Council of Chief State School Officers (CCSSO) to complete a *fast-track revision process* that will bring truly internationally benchmarked mathematics and language arts (reading and writing) standards to every Kentucky classroom. This provides Kentucky with the opportunity to have national and international comparisons of students' progress toward common standards.

This work will answer the call from Kentucky legislators and policymakers, the Kentucky Committee on Mathematics Achievement, the Commissioner's Task Force on Assessment and Accountability, Achieve, Inc., the American Diploma Project, NCTM, the National Mathematics Advisory Panel and others for more streamlined mathematics and language arts standards that can, in turn, be assessed authentically within a balanced assessment system.

This process will ensure that all content standards taught in Kentucky classrooms are:

- **Higher**
  - articulating what students need to know to be successful in college and career (beyond four years of college)
  - using national and international benchmarks so that citizens can compete in the global economy and educators can compare Kentucky students' performance to the world
  - including an analysis of the challenges and development of student thought processes during learning
- **Clearer**
  - communicating in a format teachers, students, families and citizens can understand
  - including learning targets and progressions, enabling teachers to know when students have achieved standards
- **Fewer/Narrower**
  - focusing main standards through a judicious process using research-based evidence
  - fitting within the instructional timeframe of Kentucky's school calendar and reducing testing time

The process will begin immediately with mathematics and language arts. Within 24 months, the necessary instructional resources and resulting assessments will be in place.

#### *The Next Era in Kentucky Assessment and Accountability*

In addition to the need for higher, clearer and fewer curriculum standards, KDE also understands that lessons learned in the area of testing clearly call upon Kentucky to rethink the state's assessment and accountability system. The Commonwealth Accountability Testing System (CATS), and the Kentucky Instructional Results Information System (KIRIS) before it, met the needs for school accountability during their times. It's now time for Kentucky to move toward a system that more clearly impacts daily classroom instruction, motivates students for individual success, provides longitudinal measures that give clear feedback to educators and families and also can supply the accountability measures taxpayers deserve and citizens expect.

Kentucky's opportunity to build the next generation of assessment must rely on five guiding principles.

#### **1. Development of standards must happen before the selection or creation of the assessment.**

A fundamental step in designing a state assessment system is to first develop the standards that need to be taught and mastered in each grade level and in each content area. In order to have a coherent statewide system, it is imperative that standards drive the choices made about testing and not vice versa. After standards are set, test questions specifically tied to those can be developed. The standards should be vertically aligned and developmental in nature to provide high-quality longitudinal growth data.

By developing standards first, the state clearly articulates the expectations that each student must meet. Once the standards are in place, the assessment system then measures how well students perform against its state standards. The main type of test used to measure standards must be a standards-based or criterion-referenced assessment. This type of assessment provides specific details about how students meet specific standards. A criterion-referenced/standards-based test is designed ultimately to allow all students to meet the criteria, unlike a norm-referenced assessment that is designed primarily to rank-order students.

#### **2. The annual state assessment system must provide diagnostic, longitudinal growth data and overall proficiency levels at the individual student level, as well as school and district accountability.**

The annual state assessment will provide scores that answer two questions:

1. How well does the student perform overall in a content area?
2. How well does the student perform on selected standards/objectives?

The proficiency-level score helps meet federal guidelines and provides information about how students perform on state goals. The diagnostic information is more useful at the classroom level to help teachers identify general areas of weakness and strength in their curricula. Also, it provides information for the student and family about areas of strength or weakness. Diagnostic information provides as many details as possible. For instance, diagnostic information may be able to provide summaries of the misconceptions students exhibit when they choose certain answers on the test. This type of information is useful to help teachers make instructional change in the classroom. Ideally, a significant number of items must be released to teachers and administrators each year so that they can use in-depth item analysis methodologies to further refine instruction and address the individual learning needs of students.

In order to provide both proficiency level and diagnostic scores, the state assessment system would need to be linked to a clear set of fewer and focused standards that could be measured in an end-of-year test. In addition, the test would need to use the same items for all students in order to determine the individual student level diagnostics. A single test for all students, rather than multiple forms, would be required.

- 3. The annual state assessment must measure both the knowledge and higher-level thinking required by the standards.**

The state annual assessment must span the spectrum of thinking skills from knowledge retrieval to solving complex problems. The test must incorporate both multiple choice questions and constructed response items (short answer, extended answer, open response). Multiple choice questions are valuable for their ability to judge knowledge and comprehension. Constructed response items provide a way to measure higher levels of thinking.

KDE and KBE will investigate appropriate means of assessing content-area knowledge:

- using programmatic assessments for arts & humanities
- reviewing the practical living/vocational studies assessment
- reviewing assessments for children with disabilities (while meeting requirements of NCLB and IDEA)
- reconsidering the 4th-grade portfolio to determine if it is the best approach to measure writing instruction at the elementary level

- 4. The annual state assessment should be built to support interim and classroom assessments.**

By creating an annual state assessment based on fewer, narrower and focused standards, the state system will help support the development of interim and classroom measures, resulting in a balanced assessment system that provides ongoing instructional information to teachers, principals, students and families.

An annual state assessment alone cannot provide the type of ongoing information needed by teachers to help students learn. Once-a-year results are important, but the most valuable assessments are those that occur more frequently. Two general types of assessment are needed:

- Interim assessments are formal tests, aligned with the defined standards, given throughout the year (two to four times) and help predict performance on the state's annual assessment and provide diagnostic information.
- Classroom assessments gather ongoing data and provide the frequent feedback critical to improving instruction and improving student achievement.

Interim and classroom assessments must be clearly linked to the state's educational standards and the annual assessment. By creating a balanced assessment system, classroom, district and state assessments are aligned and support each other. The interim and classroom assessments must be supported by the state through the creation of standards and resources to bolster instruction around those standards.

#### 5. Accountability is necessary for ongoing educational improvement.

Accountability is an evolving experience that is aimed at improving learning and accelerating academic progress. Accountability has improved Kentucky's national educational standings. Prior to the accountability system in the 1990s, Kentucky was frequently cited as near last in academic achievement nationwide. During this 18-year effort to improve Kentucky's educational system, Kentucky has moved from last to middle of the pack. There is still a long way to go and much work to be done, but accountability did ignite change.

The next generation of assessment in Kentucky must include accountability to improve the achievement levels of every student. The fundamental principle of accountability is to motivate students, educators and the public to continually improve Kentucky's educational system. The accountability model should include both academic and nonacademic indicators (graduation, retention, dropout and other rates) and focus on school and student growth.

With the creation of more narrow and concise standards aligned across years, it will be possible to move Kentucky to a longitudinal growth model that looks at how much academic growth occurs for each student and then factors that growth into the accountability system. In this method, there is an incentive to improve every student's achievement level. A successful longitudinal system calls for the creation of a sound set of subject matter standards aligned vertically and running through courses from elementary to high school. By aligning the tests across years, student performance can be tracked over time.

#### Moving to the Next Generation

As we move to the next generation of standards and the resulting state assessment package, we must consider many dimensions. Decisions must take into account the need to meet federal guidelines concerning state assessments. Those guidelines require federal approval prior to a state receiving its Title I allocation, and the guidelines are not trivial.

The next generation of assessment and accountability must be a coherent, time-saving system that provides quick turnaround and balances:

- reading, mathematics tested once a year in grades 3–8 and once in high school (as required by NCLB)
- science, writing and social studies tested at least once each at elementary, middle and high school
- EXPLORE, PLAN and ACT in grades 8, 10 and 11 for college readiness and national comparison information

In addition, a realistic timeline is necessary to ensure success. KDE calls for work to begin immediately on mathematics standards that could be ready by January 2010 and a mathematics test ready for use by

spring 2011. Other content areas could begin work for phase-in beginning spring 2012. By phasing in different content areas, it may be possible to maintain the accountability trend line to meet the current requirements of NCLB by 2014.

Improvement in instruction does not happen through the revision to standards and assessment alone; it requires professional resources and training. An investment in teacher knowledge and expertise will produce positive change in student learning. The Kentucky Department of Education, in collaboration with educational cooperatives, postsecondary institutions and other networks, will make this investment through professional growth opportunities. Priority needs in the areas of assessment literacy and high-quality instruction will be addressed that enable Kentucky educators to effectively utilize Kentucky's new standards within a balanced assessment system.

Achieving the next era in Kentucky's educational progress will call for new funding allocations. Initially, the collaborative revision of mathematics and language arts standards will require KDE staff to attend the Council of Chief State School Officers' national meetings and to visit partnering states. Implementing the research that is necessary to evaluate instructional progress in Kentucky will require measures beyond state and national assessments; therefore, tools such as the national Survey of Enacted Curriculum will need to be implemented throughout the state in order to better measure the instructional progress that Kentucky teachers are making as they implement the new standards. Additional standards development in content areas beyond mathematics and language arts will require partnerships that extend beyond the CCSSO network. KDE must collaborate with other state departments of education and with international experts in standards development in the effort to focus instruction and balanced assessment on international standards.

The assessment development will be dependent on the standards and the ultimate test design. Some of the early work of a developer, if needed, will overlap the work of the current system of assessment, thus calling for temporary, additional money to fund the simultaneous efforts.

### Conclusion

To ensure that Kentucky's assessment and accountability system provides valuable instructional information and reliable data, it must be refocused. The development of higher, clearer, fewer and narrower academic standards, starting with mathematics, will be the starting point.

Five principles should guide this process:

1. Development of standards must happen before the selection or creation of the assessment.
2. The annual state assessment system must provide diagnostic, longitudinal growth data and overall proficiency levels at the individual student level.
3. The annual state assessment must measure both the knowledge and higher-level thinking required by the standards.
4. The annual state assessment should be built to support interim and classroom assessments.
5. Accountability is necessary for ongoing educational improvement.

Kentucky is poised to move forward in the area of standards revision, particularly in the area of mathematics. This work must have one overriding goal – to ensure that the state's standards, assessment and accountability all focus on what is best for every child in the public school setting.

## Kentucky NAEP exclusion data

NAEP Percentage of Total sample identified SD and ELL, and percentage of Total and of Identified students Excluded and Accommodated: 2003-2009 Grade 4 Reading										
Jurisdiction	SD					ELL				
	Pct of total			Pct of SD		Pct of total			Pct of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
Kentucky 2009	04	6	2	37	12	1	0	0	32	13
Kentucky 2007	04	6	2	37	08	1	0	/	35	5
Kentucky 2005	03	7	2	45	11	1	0	/		
Kentucky 2003	03	7	0	48	0/	0	0	/		

NAEP Percentage of Total sample identified SD and ELL, and percentage of Total and of Identified students Excluded and Accommodated: 2003-2009 Grade 4 Math										
Jurisdiction	SD					ELL				
	Pct of total			Pct of SD		Pct of total			Pct of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
Kentucky 2009	04	2	6	08	38	1	/	0	02	42
Kentucky 2007	04	1	6	05	37	1	/	0	00	40
Kentucky 2005	03	1	8	05	50	0	/	0		
Kentucky 2003	02	2	6	10	4/	1	0	/	20	1/

NAEP Percentage of Total sample identified SD and ELL, and percentage of Total and of Identified students Excluded and Accommodated: 2003-2009 Grade 8 Reading										
Jurisdiction	SD					ELL				
	Pct of total			Pct of SD		Pct of total			Pct of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
Kentucky 2009	01	6	3	44	21	0	0	/	57	04
Kentucky 2007	02	6	2	47	16	0	/	/	24	15
Kentucky 2005	01	6	2	44	16	0	/	/		
Kentucky 2003	02	6	0	42	01	0	/	/		

NAEP Percentage of Total sample identified SD and ELL, and percentage of Total and of Identified students Excluded and Accommodated: 2003-2009 Grade 8 Math										
Jurisdiction	SD					ELL				
	Pct of total			Pct of SD		Pct of total			Pct of ELL	
	ID	Excl	Accm	Excl	Accm	ID	Excl	Accm	Excl	Accm
Kentucky 2009	01	3	5	26	40	0	/	0	25	33
Kentucky 2007	02	5	4	38	27	1	/	0		
Kentucky 2005	00	2	5	17	43	0	/	0		
Kentucky 2003	02	3	4	20	28	0	0	/		

# Kentucky's Cohort Graduation Rate Plan

## Graduation Rate - Data Collection and Reporting

Kentucky will track first time 9<sup>th</sup> graders beginning with the 2009-10 cohort until they graduate four years later in 2013.

Kentucky will collect 2013 graduate data in fall 2013 and report the 2013 four-year adjusted cohort graduation rate beginning in fall 2013.

Kentucky will report the Averaged Freshman Graduation Rate (AFGR) as the transitional graduation rate from 2010 through 2012.

Graduation Rate - Data Collection and Reporting		
School Year	Graduation Rate Reported	Reporting Date
2008-09	2009 Leaver	Spring 2010
2009-10	2010 Leaver/AFGR	Fall 2010
2010-11	2011 AFGR	Fall 2011
2011-12	2012 AFGR	Fall 2012
2012-13	2013 Cohort	Fall 2013

## Graduation Rate - NCLB Reporting for AYP

Kentucky will include the 2013 four-year adjusted cohort graduation rate in AYP determinations in the aggregate and disaggregated by subgroups based on assessments administered in 2013-14.

Kentucky will include the Averaged Freshman Graduation Rate (AFGR) in AYP determinations in the aggregate and disaggregated by subgroups based on assessments administered in 2011-12 and 2012-13.

Graduation Rate - NCLB Reporting for AYP (lagged data)		
School Year Assessments Administered	Graduation Rate Reported	Reporting Date
2009-10	2009 Leaver	Summer 2010
2010-11	2010 Leaver	Summer 2011
2011-12	2011 AFGR	Summer 2012
2012-13	2012 AFGR	Summer 2013
2013-14	2013 Cohort	Summer 2014

Steven L. Beshear  
Governor



Elaine Farris  
Interim Commissioner of Education

**EDUCATION AND WORKFORCE DEVELOPMENT CABINET  
DEPARTMENT OF EDUCATION**

Capital Plaza Tower • 500 Mero Street • Frankfort, Kentucky 40601  
Phone: (502) 564-4770 • www.education.ky.gov

February 27, 2009

Mr. Joseph C. Conaty  
Delegated Authority to Perform the Functions and Duties of the  
Assistant Secretary for Elementary and Secondary Education  
Office of Elementary and Secondary Education  
U.S. Department of Education (USED)  
400 Maryland Avenue, SW, Suite 3E314  
Washington, D.C. 20202

RE: Request to extend the deadline to meet the reporting of the four-year adjusted cohort graduation rate to 2013-14

Dear Mr. Conaty:

Kentucky supports the new NCLB graduation rates; however, Kentucky is seeking approval to extend the deadline to meet the reporting of the four-year adjusted cohort graduation rate to 2013-14. The request is triggered by Kentucky's current effort to modernize the state's Student Information System (SIS) by moving to a new vendor and the subsequent operational effort to transition 174 school districts and over 1,400 schools from one SIS vendor to another. As background for the request Kentucky is providing in this letter and its attachments:

- Background information on Graduation Rates
  - Graduation Rates Within *NCLB*
  - Kentucky's Current Graduation Model
  - Kentucky's Proposed Transition Model;
- Evidence demonstrating that Kentucky is unable to meet the 2010-11 deadline;
- A detailed plan and timeline addressing the steps Kentucky is taking to implement the four-year adjusted cohort graduation rate;
- Compliance with final regulations prior to school year 2010-11 and transitional graduation rate through 2012-13.

Graduation Rates Within *NCLB*

In October 2008 the US Department of Education released final regulations establishing a uniform and more accurate measure of calculating high school graduation rate that is comparable across states; strengthening public school choice and supplemental educational service requirements; and increasing accountability and transparency. The final regulations define the

“four-year adjusted cohort graduation rate” as the number of students who graduate in four years with a regular high school diploma divided by the number of students who entered high school four years earlier (adjusting for transfers in and out, immigrants and deceased students).

- Students who graduate in four years include students who earn a regular high school diploma at the end of their fourth year; before the end of their fourth year; and, if a state chooses, during a summer session immediately following their fourth year.
- To remove a student from a cohort, a school or district must confirm in writing that a student has transferred out, immigrated to another country, or is deceased.
- For students who transfer out of a school, the written confirmation must be official and documents that the student has enrolled in another school or in an educational program that culminates in a regular high school diploma.

#### Kentucky's Current Graduation Model

Kentucky currently uses the National Center of Educational Statistics (NCES) defined four-year completion or leaver rate as the graduation rate for accountability calculations. This four-year-or-less completion rate emulates a true cohort approach following students through four years of high school. This formula is documented and is approved in Kentucky's NCLB Accountability Workbook. Below is the definition.

"Graduation rate" means the quotient of: {number of current year grade 12 completers (standard diploma within four (4) years, including students with disabilities whose IEPs stipulate they will need more than four (4) years to obtain a standard diploma)} divided by {number of current year grade 12 completers (includes standard diplomas plus certificates of completion), plus the number of current year grade 12 dropouts, plus the number of dropouts from the current 12th grade that dropped out as 11th graders, plus the number of dropouts from the current 12th grade class that dropped out as 10th graders, plus the number of dropouts from the current 12th grade class that dropped out as 9th graders}.

#### Kentucky's Proposed Transition Model

Kentucky is currently completing the implementation of a new statewide Student Information System (SIS), which is scheduled to be completed by the end of the 2008-09 school year. The first year that Kentucky will be able to begin tracking cohorts (first time 9<sup>th</sup> graders) in the new SIS will begin with the 2009-10 school year. With this implementation, the 2009-10 9<sup>th</sup> grade cohort can be tracked through the system until the cohort is scheduled to graduate four years later (2012-13). The reporting of graduation rate is lagged by one year in Kentucky, so the 2012-13 four-year adjusted cohort graduation rate will not be reported until the 2013-14 reporting year.

During this transition period, Kentucky will implement the Averaged Freshman Graduation Rate (AFGR) and begin reporting aggregate and disaggregated graduation rates in the 2010-11 reporting year (2009-10 graduation rate). The AFGR will continue to be reported and included in Adequate Yearly Progress (AYP) for the 2011-12, 2012-13 and 2013-14 reporting years. While 2013-14 is the first year the four-year adjusted cohort graduation rate can be reported, Kentucky will continue to use the AFGR in AYP calculations for one additional year. This will allow sufficient time to verify procedures and check calculations before including the four-year adjusted cohort graduation rate in AYP.

See Attachment A for a detailed chart of Kentucky's Transitional Graduation Rate Plan, which includes timelines for data collection and reporting.

Evidence demonstrating that Kentucky is unable to meet the 2010-11 deadline

Kentucky awarded a contract to Infinite Campus, Inc. in December 2006 to provide and manage the student information system (SIS) for the state's 174 local school districts and over 1,400 schools. The implementation of the statewide SIS began in the 2007-08 school year with a small number of pilot districts and is scheduled to be completed by the end of the 2008-09 school year. The system will allow student data to be managed through a centralized database, providing real-time information to those who are authorized to view it. When an authorized user enters data into the system, other authorized users can view the changed data immediately.

KDE has worked with Infinite Campus to refine the new SIS and test it thoroughly before it is implemented throughout the Commonwealth. Based on the success of this testing, Jefferson County (Kentucky's largest school district) implemented the new SIS in July 2007 and the initial pilot districts went live in October 2007. Following the success of the pilot projects, additional districts began implementation in waves in October 2008 to be completed by April 2009. See Attachment B for a map of Kentucky districts live on Infinite Campus through February 16, 2009 and Attachment C for the Wave 2 through Wave 7 implementation schedule.

Because of the timeline associated with the full implementation of the new statewide SIS, the initial tracking of student cohorts in the SIS will not be able to begin until all schools have transitioned to the new system beginning with the 2009-10 school year.

A detailed plan and timeline addressing the steps Kentucky is taking to implement the four-year adjusted cohort graduation rate

With implementation of the new SIS, scheduled to be completed by the end of the 2008-09, Kentucky will be able to track cohorts (first time 9<sup>th</sup> graders) beginning with the 2009-10 school year. The statewide implementation will allow Kentucky to track the 2009-10 9<sup>th</sup> grade cohort through the system until the cohort is scheduled to graduate four years later (2012-13). Since the reporting of graduation rate is lagged by one year, the 2012-13 four-year adjusted cohort graduation rate will be reported for the first time in 2013-14. Kentucky will continue to use the AFGR for AYP calculations in 2013-14 to allow sufficient time to verify procedures and check calculations before including the four-year adjusted cohort graduation rate in AYP. Beginning with reporting year 2014-15, Kentucky will report the four-year adjusted cohort graduation rate and include it in AYP.

See Attachment D for a detailed chart of Kentucky's Cohort Graduation Rate Plan, which includes timelines for data collection and reporting.

Compliance with final regulations prior to school year 2010-11 and transitional graduation rate through 2012-13

Kentucky intends to comply with requirements of the final regulations that require:

- Prior to school year 2010-11, report the graduation rate in the aggregate and disaggregated by subgroups at the high school, district, and state levels using a transitional graduation rate (Kentucky's Current Graduation Model);
- Report the transitional graduation rate (AFGR) in the aggregate and disaggregated by subgroups at the high school, district, and state levels on report cards providing results of assessments administered in the 2010-11 school year;
- Using the transitional graduation rate (AFGR), report in the aggregate and disaggregated by subgroups, for school district and state AYP determinations for school years 2011-12, 2012-13 and 2013-14; and
- Report the four-year adjusted cohort graduation rate in the aggregate and disaggregated by subgroups, for school, district, and state reporting beginning in 2013-14 and for AYP determinations, beginning with those determinations based on school year 2014-15.

If you have questions, please contact Associate Commissioner Ken Draut at 502-564-2256 or via email at [Ken.Draut@education.ky.gov](mailto:Ken.Draut@education.ky.gov). Thank you for your consideration of this request.

Sincerely,



Elaine Farris

cc: Kentucky Board of Education members      Mary Ann Miller  
Patrick Rooney    Zollie Stevenson, Jr.  
David Harmon    Ken Draut

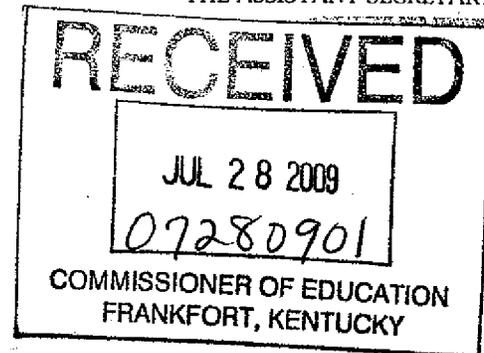
EF:KD:re/mam



UNITED STATES DEPARTMENT OF EDUCATION  
OFFICE OF ELEMENTARY AND SECONDARY EDUCATION

THE ASSISTANT SECRETARY

JUL 21 2009



The Honorable Elaine Farris  
Interim Commissioner of Education  
Kentucky Department of Education  
Capital Plaza Tower  
500 Metro Street  
Frankfort, Kentucky 40601

Dear Commissioner Farris:

I am writing in response to your request under 34 C.F.R. § 200.19(b)(7) for an extension of the 2010–11 deadline for reporting a four-year adjusted cohort graduation rate (34 C.F.R. § 200.19(b)(4)(ii)(A)) and of the 2011–12 deadline for using a four-year adjusted cohort graduation rate in adequate yearly progress (AYP) determinations (34 C.F.R. § 200.19(b)(5)(i)). Graduation rates represent an important indicator of the extent to which schools and districts are preparing students for post-secondary education and the workforce.

Kentucky requested a three-year extension of the deadline because it is enhancing its student information system and the cohort of students entering 9th-grade in 2009–10 will be the first cohort that can be tracked with the new data system. Kentucky also proposed to “lag” the year in which it reports its data (i.e., to report graduation rate data from the 2010–11 school year with the results of assessments administered in 2011–12). Consequently, Kentucky will have the ability to calculate the four-year adjusted cohort graduation rate in 2012–13 but requested to lag its data to report it in 2013–14.

Although a state is permitted to lag its graduation data so that it can include students who graduate with a regular diploma in the summer after their senior year, the Department’s *High School Graduation Rate Non-Regulatory Guidance* (see <http://www.ed.gov/policy/elsec/guid/hsgrguidance.pdf>, question C-3) explains that lagging graduation rate data does not constitute a sufficient reason for an extension of the deadline for reporting the four-year adjusted cohort graduation rate. As such, and as your staff has been informed through conversations with Department staff, I am denying Kentucky’s request to delay reporting a four-year adjusted cohort graduation rate until 2013–14.

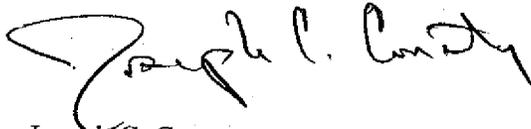
However, I am approving Kentucky’s request for an extension of the deadline to report its four-year adjusted cohort graduation rate. Kentucky will first be required to report its four-year adjusted cohort graduation rate with the results of assessments administered in 2012–13 and to include it in AYP determinations based on assessments administered in 2013–14 (using the 2012–13 lagged data if the state desires to continue to lag graduation rate data for AYP purposes). I am also approving Kentucky’s request to use the National Center for Education Statistics’ Averaged Freshman Graduation Rate (AFGR) as its transitional rate until Kentucky begins using a four-year adjusted cohort graduation rate. Please note that, beginning with AYP determinations based on assessments administered in 2011–12, Kentucky must include the AFGR in AYP determinations in the aggregate and disaggregated by subgroups at the school, district, and state levels, as required by 34 C.F.R. § 200.19(b)(7)(iii). Finally, Kentucky must amend and submit for approval its Accountability

400 MARYLAND AVE. S.W., WASHINGTON, DC 20202  
[www.ed.gov](http://www.ed.gov)

Workbook to reflect the graduation rate that will be reported and used in AYP determinations during this transition, and, in accordance with 34 C.F.R. § 200.19(b)(6)(ii), must submit for peer review and Department approval its graduation rate goal and targets for 2009–10 and beyond.

We appreciate the work you are doing to improve data quality in Kentucky. If you have any questions as you move forward with your work on Kentucky's graduation rate, please contact Vicki Robinson of my staff at [Vicki.Robinson@ed.gov](mailto:Vicki.Robinson@ed.gov) or (202) 205-5471.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph C. Conaty". The signature is fluid and cursive, with a large initial "J" and a stylized "C".

Joseph C. Conaty  
Delegated Authority to Perform the Functions and  
Duties of the Assistant Secretary for Elementary and  
Secondary Education

cc: Governor Steve Beshear  
Ken Draut  
MaryAnn Miller

**Student achievement data – historical detail**  
For reform criterion (A)(3)

**Table of contents**

NAEP student achievement levels and achievement gaps ..... 2  
ESEA student achievement levels and achievement gaps ..... 6  
High school graduation rates ..... 8

# NAEP student achievement levels and achievement gaps

Kentucky - Percent At or Above Proficient on NAEP - 4th Grade Reading/Language Arts

Demographic	1992'	1994'	1998	2002	2003	2005	2007	Change from oldest year with data to 2007	Change from 2003-2007
<b>Total</b>	23	26	29	30	31	31	33	10.6	2.8
<b>By race / ethnicity</b>									
ALL	23	26	29	30	31	31	33	10.6	2.8
White	24	27	31	32	33	33	36	11.4	3.1
Black	8	11	11	13	16	15	14	5.9	-1.2
Hispanic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Asian / Pacific Island	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
American Indian	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Unclassified	N/A	N/A	N/A	N/A	N/A	N/A	34	N/A	N/A
Gap - Black and White	16	16	20	19	17	17	21	5.5	4.4
Gap - Hispanic and White	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gap - Asian / Pacific Island and White	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gap - American Indian and White	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gap - Unclassified and White	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A
<b>By socioeconomic status</b>									
Eligible for Natl School Lunch Program	N/A	N/A	17	19	21	22	21	4.5	0.3
Not eligible for Natl School Lunch Program	N/A	N/A	39	40	41	39	46	7.1	5.7
Info not available	N/A	N/A	N/A	23	35	N/A	N/A	N/A	N/A
Gap - Eligible and Not eligible	N/A	N/A	23	22	20	17	25	#REF!	3.8
<b>By gender</b>									
Male	21	22	28	25	27	29	30	8.9	2.5
Female	25	30	30	35	34	33	37	12.0	3.1
Gap - Male and Female	4	7	3	10	7	4	8	3.1	0.6
<b>By disability status</b>									
Student disability	N/A	N/A	14	8	11	14	18	4.1	6.8
Not student disability	N/A	N/A	30	30	32	32	35	5.2	2.9
Gap - Disability and Not disability	N/A	N/A	16	23	21	19	17	1.1	-3.9
<b>By limited English proficiency</b>									
English Language Learner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Not English Language Learner	N/A	N/A	29	30	31	31	33	4.6	2.8
Gap - ELL and Not ELL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Kentucky - Percent At or Above Proficient on NAEP - 4th Grade Mathematics

Demographic	1990'	1992'	1996'	2000	2003	2005	2007	2009	Change from oldest year with data to 2009	Change from 2003 - 2009
Total	N/A	13	16	17	22	26	31	37	23.9	14.4
By race / ethnicity										
White	N/A	13	17	19	24	29	34	39	25.8	15.3
Black	N/A	3	4	2	8	9	12	14	10.7	5.8
Hispanic	N/A	N/A	N/A	N/A	N/A	N/A	15	22	7.0	N/A
Asian / Pacific Island	N/A	N/A	N/A	N/A	N/A	N/A	N/A	69	N/A	N/A
American Indian	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Unclassified	N/A	N/A	N/A	N/A	N/A	N/A	21	32	11.2	N/A
Gap - Black and White	N/A	10	13	18	16	19	21	25	15.1	9.4
Gap - Hispanic and White	N/A	N/A	N/A	N/A	N/A	N/A	19	18	N/A	N/A
Gap - Asian/Pacific Island and White	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-30	N/A	N/A
Gap - American Indian and White	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gap - Unclassified and White	N/A	N/A	N/A	N/A	N/A	N/A	13	7	N/A	N/A
By socioeconomic status										
Eligible for Nat'l School Lunch Program	N/A	N/A	7	6	12	16	18	21	14.4	9.6
Not eligible for Nat'l School Lunch Program	N/A	N/A	24	26	32	37	46	53	28.7	20.3
Info not available	N/A	N/A	9	28	N/A	N/A	N/A	N/A	19.0	N/A
Gap - Eligible and Not eligible	N/A	N/A	17	20	20	21	28	31	14.3	10.7
By gender										
Male	N/A	14	17	19	24	29	33	39	25.2	14.7
Female	N/A	12	14	15	20	24	29	34	22.5	14.1
Gap - Male and Female	N/A	-2	-3	-4	-4	-5	-5	-5	-2.7	-0.6
By disability status										
Student disability	N/A	N/A	N/A	11	8	12	19	21	10.0	13.4
Not student disability	N/A	N/A	N/A	18	24	28	33	39	21.1	14.8
Gap - Disability and Not disability	N/A	N/A	N/A	7	16	16	14	18	11.1	1.3
By limited English proficiency										
English Language Learner	N/A	N/A	N/A	N/A	N/A	N/A	16	28	12.1	N/A
Not English Language Learner	N/A	N/A	N/A	17	22	26	31	37	19.5	14.3
Gap - ELL and Not ELL	N/A	N/A	N/A	N/A	N/A	N/A	15	9	-6.5	-6.5

Kentucky - Percent At or Above Proficient on NAEP - 8th Grade Mathematics

Demographic	1990'	1992'	1996'	2000	2003	2005	2007	2009	Change from oldest year with data to 2009	Change from 2003 - 2009
<b>Total</b>	10	14	16	20	24	23	27	27	16.8	3.6
<b>By race / ethnicity</b>										
White	11	15	17	22	25	24	29	29	17.9	3.8
Black	2	4	2	6	5	9	11	8	5.9	3.0
Hispanic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	22	N/A	N/A
Asian / Pacific Island	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
American Indian	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Unclassified	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gap - Black and White	9	10	15	16	20	16	18	21	12.0	0.8
Gap - Hispanic and White	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7	N/A	N/A
Gap - Asian/Pacific Island and White	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gap - American Indian and White	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gap - Unclassified and White	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>By socioeconomic status</b>										
Eligible for Natl School Lunch Program	N/A	N/A	4	8	11	14	15	15	10.4	3.4
Not eligible for Natl School Lunch Pro;	N/A	N/A	23	29	33	31	37	38	15.7	5.9
Info not available	N/A	N/A	12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gap - Eligible and Not eligible	N/A	N/A	18	20	21	17	22	24	5.3	2.5
<b>By gender</b>										
Male	11	15	17	22	25	24	30	30	18.4	5.3
Female	9	13	15	18	23	21	24	25	15.1	1.8
Gap - Male and Female	-2	-2	-2	-4	-2	-3	-6	-5	-3.4	-3.5
<b>By disability status</b>										
Student disability	N/A	N/A	N/A	4	3	5	7	7	3.4	4.3
Not student disability	N/A	N/A	N/A	22	26	24	29	29	6.9	3.2
Gap - Disability and Not disability	N/A	N/A	N/A	18	23	19	22	21	3.5	-1.2
<b>By limited English proficiency</b>										
English Language Learner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Not English Language Learner	N/A	N/A	N/A	20	24	23	28	27	7.0	3.7
Gap - ELL and Not ELL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Kentucky - Percent At or Above Proficient on NAEP - 8th Grade Reading/Language Arts

Demographic	1992 <sup>1</sup>	1994 <sup>1</sup>	1998	2002	2003	2005	2007	Change from oldest year with data to 2007	Change from 2003-2007
<b>Total</b>									
ALL	N/A	N/A	30	32	34	31	28	-2.4	-5.9
<b>By race / ethnicity</b>									
White	N/A	N/A	32	33	36	32	30	-2.6	-6.2
Black	N/A	N/A	11	14	14	15	14	2.8	0.3
Hispanic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Asian / Pacific Island	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
American Indian	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Unclassified	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gap - Black and White	N/A	N/A	21	19	22	17	16	-5.5	-6.5
Gap - Hispanic and White	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gap - Asian / Pacific Island and White	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gap - American Indian and White	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gap - Unclassified and White	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>By socioeconomic status</b>									
Eligible for Natl School Lunch Program	N/A	N/A	20	17	23	22	17	-2.7	-6.4
Not eligible for Natl School Lunch Program	N/A	N/A	38	41	41	38	38	0.0	-3.5
Info not available	N/A	N/A	25	44	N/A	N/A	N/A	N/A	N/A
Gap - Eligible and Not eligible	N/A	N/A	18	24	18	17	21	2.7	2.9
<b>By gender</b>									
Male	N/A	N/A	23	27	27	25	23	0.3	-4.1
Female	25	30	30	35	34	33	37	12.0	3.1
Gap - Male and Female	N/A	N/A	7	8	7	8	14	6.9	7.2
<b>By disability status</b>									
Student disability	N/A	N/A	N/A	5	7	6	7	2.2	0.1
Not student disability	N/A	N/A	32	33	35	32	29	-2.8	-6.3
Gap - Disability and Not disability	N/A	N/A	N/A	28	28	26	22	-6.5	-6.4
<b>By limited English proficiency</b>									
English Language Learner	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Not English Language Learner	N/A	N/A	30	32	34	31	28	-2.4	-5.9
Gap - ELL and Not ELL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

# ESEA student achievement levels and achievement gaps

Kentucky - Percent Proficient or Above on NCLB test - Reading							
Demographic	2003	2004	2005	2006	2007	2008	2009
<b>Total</b>	50%	53%	56%	57%	68%	68%	69%
<b>By race</b>							
ALL	50%	53%	56%	57%	68%	68%	69%
White	53%	56%	58%	59%	70%	71%	72%
African-American	31%	36%	38%	39%	51%	50%	51%
Hispanic	43%	45%	46%	46%	60%	60%	62%
Asian	65%	68%	69%	70%	81%	80%	79%
Gap - African-American and White	21	20	21	21	20	21	20
Gap - Hispanic and White	10	11	12	13	10	11	9
Gap - Asian and White	-13	-12	-11	-11	-11	-9	-8
<b>By language status</b>							
Limited English Proficient	27%	34%	33%	33%	47%	45%	46%
Not Limited English Proficient	51%	54%	56%	58%	68%	69%	69%
Gap	24	20	23	25	22	23	23
<b>By income</b>							
Free/Reduced Lunch	37%	41%	44%	45%	58%	59%	60%
Not Free/Reduced Lunch	60%	63%	66%	67%	78%	78%	79%
Gap	23	22	22	21	20	20	19
<b>By disability status</b>							
With Disability	23%	28%	30%	31%	41%	41%	43%
Not With Disability	54%	58%	60%	61%	73%	73%	74%
Gap	31	29	30	30	33	32	30
<b>Change from 2003-2009 in percentage points</b>							
ALL	19						1
White	19						1
African-American	20						1
Hispanic	20						2
Asian	14						-2
Gap - African-American and White	-1						1
Gap - Hispanic and White	-1						-1
Gap - Asian and White	5						3
Limited English Proficient	19						-1
Not Limited English Proficient	19						1
Gap	0						2
Free/Reduced Lunch	23						2
Not Free/Reduced Lunch	19						1
Gap	-3						-1
With Disability	20						3
Not With Disability	19						1
Gap	-1						-2

**Kentucky - Percent Proficient or Above on NCLB test - Mathematics**

Demographic	2003	2004	2005	2006	2007	2008	2009	Change from 2003-2009 in percentage points	Change from 2007-2009 in percentage points
<b>Total</b>									
ALL	34%	40%	39%	41%	54%	60%	62%	28	8
<b>By race</b>									
White	36%	42%	41%	43%	57%	63%	65%	29	8
African-American	14%	19%	19%	22%	35%	39%	41%	27	6
Hispanic	26%	29%	27%	31%	47%	53%	56%	30	9
Asian	62%	65%	67%	68%	78%	79%	81%	19	3
Gap - African-American and White	22	23	22	22	22	24	24	2	2
Gap - Hispanic and White	10	13	14	12	10	10	9	-1	0
Gap - Asian and White	-26	-23	-26	-25	-21	-16	-16	10	6
<b>By language status</b>									
Limited English Proficient	22%	25%	24%	28%	39%	44%	51%	30	12
Not Limited English Proficient	34%	39%	39%	43%	55%	60%	63%	29	8
Gap	12	14	14	15	15	16	12	-1	-4
<b>By income</b>									
Free/Reduced Lunch	20%	26%	25%	28%	43%	50%	53%	33	10
Not Free/Reduced Lunch	44%	50%	49%	53%	66%	70%	73%	29	7
Gap	24	24	24	25	23	20	20	-4	-3
<b>By disability status</b>									
With Disability	12%	17%	18%	20%	29%	35%	39%	27	10
Not With Disability	37%	43%	42%	46%	59%	64%	66%	29	8
Gap	25	25	24	26	30	29	27	2	-3

## High school graduation rates

Kentucky high school graduation rates (different methodologies)													
Methodology	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Cumulative Promotion Index	63%	70%	62%	62%	64%	65%	72%	70%	70%	72%	72%	72%	N/A
Leaver Rate	N/A	N/A	N/A	N/A	N/A	80%	81%	79%	81%	83%	83%	84%	85%

**Perry, Teresa - Commissioner's Office**

---

**From:** Farris, Elaine - Interim Commissioner, Dept. of Education  
**Sent:** Thursday, May 07, 2009 10:51 AM  
**To:** 'scottm@ccsso.org'  
**Cc:** Smith, Jody - Commissioner's Office  
**Subject:** CCSSO/NGAC Common Core Standards MOA  
**Attachments:** 0527\_001.pdf

Scott,

Please find attached Kentucky's Common Core Standards MOA that is due May 8. Please note that the MOA has been forwarded to the NGA Center as well. Kentucky's contact for this initiative will be Michael Miller. You can reach Michael at the contact information below.

Michael Miller, Director  
Office of Teaching and Learning  
Kentucky Department of Education  
18<sup>th</sup> Floor – Capital Plaza Tower  
Frankfort, Kentucky 40601  
Phone: 502-564-2106  
Email: [Michael.Miller@education.ky.gov](mailto:Michael.Miller@education.ky.gov)

Please let me know if I can be of further assistance.

Elaine Farris

**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 set of standards. 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 a set of common core standards in English language arts and math that are:

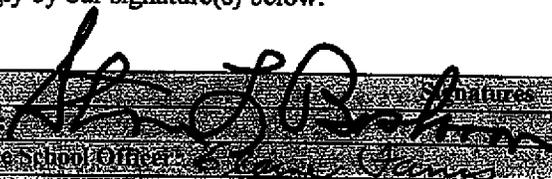
- Fewer, clearer, and higher, to best drive effective policy and practice;
  - Aligned with college and work expectations, so that all students are prepared for success upon graduating from high school;
  - Inclusive of rigorous content and application of knowledge through high-order skills, so that all students are prepared for the 21<sup>st</sup> 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. 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. 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.
- **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 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 may choose to include additional state standards beyond the common core. 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 based on research and evidence-based learning and can support the development of assessments that are aligned to the common core 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 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 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	

News Release

09/01/2009

## **Fifty-One States And Territories Join Common Core State Standards Initiative**

### **NGA Center, CCSSO Convene State-led Process to Develop Common English-language arts and Mathematics Standards**

Contact: Jodi Omeare, 202-624-5346  
Office of Communications

WASHINGTON—The National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO) today released the names of the states and territories that have joined the Common Core State Standards Initiative: Alabama; Arizona; Arkansas; California; Colorado; Connecticut; Delaware; District of Columbia; Florida; Georgia; Hawaii; Idaho; Illinois; Indiana; Iowa; Kansas; Kentucky; Louisiana; Maine; Maryland; Massachusetts; Michigan; Minnesota; Mississippi; Missouri; Montana; Nebraska; Nevada; New Hampshire; New Jersey; New Mexico; New York; North Carolina; North Dakota; Ohio; Oklahoma; Oregon; Pennsylvania; Puerto Rico; Rhode Island; South Carolina; South Dakota; Tennessee; Utah; Vermont; Virgin Islands; Virginia; Washington; West Virginia; Wisconsin; Wyoming.

In the twenty-six years since the release of *A Nation at Risk*, states have made great strides in increasing the academic rigor of education standards. Yet, America's children still remain behind other nations in terms of academic achievement and preparedness to succeed.

By signing on to the common core state standards initiative, governors and state commissioners of education across the country are committing to joining a state-led process to develop a common core of state standards in English language arts and mathematics for grades K-12. These standards will be research and evidence-based, internationally benchmarked, aligned with college and work expectations and include rigorous content and skills.

"To maintain America's competitive edge, we need all of our students to be prepared and ready to compete with students from around the world," said NGA Vice Chair Vermont Gov. Jim Douglas. "Common standards that allow us to internationally benchmark our students' performance with other top countries have the potential to bring about a real and meaningful transformation of our education system to the benefit of all Americans."

"As state school chiefs, we have been discussing and building momentum for state-led, voluntary common standards that are both rigorous and internationally benchmarked for the past two years," stated CCSSO President and Arkansas Commissioner of Education Ken James. "The broad level of commitment we have received from states across the nation for this unprecedented effort is both gratifying and exciting. It also clearly illustrates that this is an idea whose time has arrived."

The Common Core State Standards Initiative is being jointly led by the NGA Center and CCSSO in partnership with Achieve, Inc; ACT and the College Board. It builds directly on recent efforts of leading organizations and states that have focused on developing college- and career-ready standards and ensures that these standards can be internationally benchmarked to top-performing countries around the world. The goal is to have a common core of state standards that states can voluntarily adopt. States may choose

to include additional standards beyond the common core as long as the common core represents at least 85 percent of the state's standards in English language arts and mathematics.

"Measuring our students against international benchmarks is an important step," said Virginia Gov. Timothy Kaine. "Today, we live in a world without borders. It not only matters how Virginia students compare to those in surrounding states – it matters how we compete with countries across the world."

"Only when we agree about what all high school graduates need to be successful will we be able to tackle the most significant challenge ahead of us: transforming instruction for every child," said CCSSO President-Elect and Maine Education Commissioner Sue Gendron. "Common standards will provide educators clarity and direction about what all children need to succeed in college and the workplace and allow states to more readily share best practices that dramatically improve teaching and learning. Our graduates and frankly, the future of our economy, cannot wait any longer for our educational practices to give equal opportunity for success to every student."

The NGA Center and CCSSO are coordinating the process to develop these standards and have created an expert validation committee to provide an independent review of the common core state standards, as well as the grade-by-grade standards. This committee will be composed of nationally and internationally recognized and trusted education experts who are neutral to – and independent of – the process. The college- and career-ready standards are expected to be completed in September 2009. The grade-by-grade standards work is expected to be completed in January 2010.

###

*Founded in 1908, the National Governors Association (NGA) is the collective voice of the nation's governors and one of Washington, D.C.'s most respected public policy organizations. Its members are the governors of the 50 states, three territories and two commonwealths. NGA provides governors and their senior staff members with services that range from representing states on Capitol Hill and before the Administration on key federal issues to developing and implementing innovative solutions to public policy challenges through the NGA Center for Best Practices. For more information, visit [www.nga.org](http://www.nga.org).*

*The Council of Chief State School Officers (CCSSO) is a nonpartisan, nationwide, nonprofit organization of public officials who head departments of elementary and secondary education in the states, the District of Columbia, the Department of Defense Education Activity, and five U.S. extra-state jurisdictions. CCSSO provides leadership, advocacy, and technical assistance on major educational issues. The Council seeks member consensus on major educational issues and expresses their views to civic and professional organizations, federal agencies, Congress, and the public. [www.ccsso.org](http://www.ccsso.org).*

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 18<sup>th</sup>. 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

# Table of Contents

<b>Standards for English Language Arts 6–12</b> .....	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
<b>Standards for Literacy in History/Social Studies, Science, and Technical Subjects</b> .....	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

<b>Introduction</b> .....	1
<b>Standards for English Language Arts &amp; Literacy in History/Social Studies, Science, and Technical Subjects K–5</b> .....	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

## 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.<sup>1</sup> 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

<sup>1</sup> 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.

throughout high school should be on writing to argue and to inform or explain.<sup>2</sup>

### 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 curriculum 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

<sup>2</sup> 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 participation 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.

## 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.

**Standards for English Language Arts  
&  
Literacy in History/Social Studies,  
Science, and Technical Subjects**

**K-5**

---

## 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.

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:

### Key Ideas and Details

1. With prompting and support, ask and answer questions about key details in a text.
2. With prompting and support, retell familiar stories, including key details.
3. With prompting and support, identify characters, settings, and major events in a story.

### Craft and Structure

4. Ask and answer questions about unknown words in a text.
5. Recognize common types of texts (e.g., storybooks, poems).
6. With prompting and support, name the author and illustrator of a story and define the role of each in telling the story.

### 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.
8. (Not applicable to literature)
9. With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories.

### Range of Reading and Level of Text Complexity

10. Actively engage in group reading activities with purpose and understanding.

## Grade 1 students:

1. Ask and answer questions about key details in a text.
2. Retell stories, including key details, and demonstrate understanding of their central message or lesson.
3. Describe characters, settings, and major events in a story, using key details.
4. Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.
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.
6. Identify who is telling the story at various points in a text.
7. Refer to pictures, illustrations, and details in a story to describe characters, setting, or events.
8. (Not applicable to literature)
9. Compare and contrast the adventures and experiences of characters in stories.
10. With prompting and support, read appropriately complex prose and poetry for grade 1.

## Grade 2 students:

1. Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text.
2. Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral.
3. Describe how characters in a story respond to major events and challenges.
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. Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.
6. Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud.
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)
9. Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures.
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:**

*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.
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.
3. Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.

*Craft and Structure*

4. Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.
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.
6. Distinguish their own point of view from that of the narrator or those of the characters.

*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).
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).

**Grade 4 students:**

1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Determine a theme of a story, drama, or poem from details in the text; summarize the text.
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).

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.

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.

6. Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.

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.

8. (Not applicable to literature)

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.

**Grade 5 students:**

1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from 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. 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).

4. Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.

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. Describe how a narrator's or speaker's point of view influences how events are described.

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)

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:****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.

**Grade 4 students:**

- 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.

**Grade 5 students:**

- 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.

# Reading Standards for Informational Text K-5

[RI]

## 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.
2. With prompting and support, identify the main topic and retell key details of a text.
3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.

### Craft and Structure

4. With prompting and support, ask and answer questions about unknown words in a text.
5. Identify the front cover, back cover, and title page of a book.
6. Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.

### 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.
8. With prompting and support, identify the reasons an author gives to support points 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).

### 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

# Reading Standards for Informational Text K-5

[RI]

## Grade 3 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.
2. Determine the main idea of a text; recount the key details and explain how they support the main idea.
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.

### 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*.
5. Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic quickly and efficiently.
6. Distinguish their own point of view from that of the author of a text.

### 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).
8. Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence).
9. Compare and contrast the most important points and key details presented in two texts on the same topic.

## Grade 4 students:

1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

2. Determine the main idea of a text and explain how it is supported by key details; summarize the text.

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.

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*.

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 a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.

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.

8. Explain how an author uses reasons and evidence to support particular points in a text.

9. Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.

## Grade 5 students:

1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from 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. 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.

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*.

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.

7. Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.

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. 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. 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 texts, including historical, scientific, and technical texts, in the grades 4–5 text complexity band independently and proficiently.

## 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:

#### 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.

#### 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.<sup>1</sup> (This does not include CVCs ending with /H/, /r/, or /x/.)
  - e. Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words.

### Grade 1 students:

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).
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).

<sup>1</sup>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.

## Reading Standards: Foundational Skills (K–5)

[RF]

\* In Kindergarten children are expected to demonstrate increasing awareness and competence in the areas that follow.

### Kindergartners:\*

#### Phonics and Word Recognition

3. Know and apply grade-level phonics and word analysis skills in decoding words.
- Demonstrate basic knowledge of letter-sound correspondences by producing the primary or most frequent sound for each consonant.
  - Associate the long and short sounds with the common spellings (graphemes) for the five major vowels.
  - Read common high-frequency words by sight. (e.g., *the, of, to, you, she, my, is, are, do, does*).
  - Distinguish between similarly spelled words by identifying the sounds of the letters that differ.

### Grade 1 students:

3. Know and apply grade-level phonics and word analysis skills in decoding words.
- Know the spelling-sound correspondences for common consonant digraphs. (two letters that represent one sound).
  - Decode regularly spelled one-syllable words.
  - Know final *-e* and common vowel team conventions for representing long vowel sounds.
  - Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word.
  - Decode two-syllable words following basic patterns by breaking the words into syllables.
  - Read words with inflectional endings.
  - Recognize and read grade-appropriate irregularly spelled words.

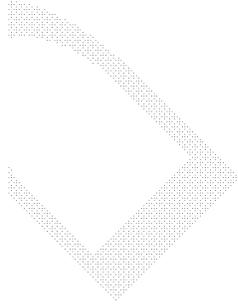
### Grade 2 students:

3. Know and apply grade-level phonics and word analysis skills in decoding words.
- Distinguish long and short vowels when reading regularly spelled one-syllable words.
  - Know spelling-sound correspondences for additional common vowel teams.
  - Decode regularly spelled two-syllable words with long vowels.
  - Decode words with common prefixes and suffixes.
  - Identify words with inconsistent but common spelling-sound correspondences.
  - Recognize and read grade-appropriate irregularly spelled words.
4. Read with sufficient accuracy and fluency to support comprehension.
- Read on-level text with purpose and understanding.
  - Read on-level text orally with accuracy, appropriate rate, and expression.
  - Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

4. Read emergent-reader texts with purpose and understanding.

4. Read with sufficient accuracy and fluency to support comprehension.
- Read on-level text with purpose and understanding.
  - Read on-level text orally with accuracy, appropriate rate, and expression.
  - Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

4. Read with sufficient accuracy and fluency to support comprehension.
- Read on-level text with purpose and understanding.
  - Read on-level text orally with accuracy, appropriate rate, and expression.
  - 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*

- |  |   |   |
|--|---|---|
| <p><b>3.</b> Know and apply grade-level phonics and word analysis skills in decoding words.</p> <ul style="list-style-type: none"> <li>a. Identify and know the meaning of the most common prefixes and derivational suffixes.</li> <li>b. Decode words with common Latin suffixes.</li> <li>c. Decode multisyllable words.</li> <li>d. Read grade-appropriate irregularly spelled words.</li> </ul> | <p><b>3.</b> Know and apply grade-level phonics and word analysis skills in decoding words.</p> <ul style="list-style-type: none"> <li>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.</li> </ul> | <p><b>3.</b> Know and apply grade-level phonics and word analysis skills in decoding words.</p> <ul style="list-style-type: none"> <li>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.</li> </ul> |
|--|---|---|

*Fluency*

- |  |  |  |
|--|--|--|
| <p><b>4.</b> Read with sufficient accuracy and fluency to support comprehension.</p> <ul style="list-style-type: none"> <li>a. Read on-level text with purpose and understanding.</li> <li>b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression.</li> <li>c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.</li> </ul> | <p><b>4.</b> Read with sufficient accuracy and fluency to support comprehension.</p> <ul style="list-style-type: none"> <li>a. Read on-level text with purpose and understanding.</li> <li>b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression.</li> <li>c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.</li> </ul> | <p><b>4.</b> Read with sufficient accuracy and fluency to support comprehension.</p> <ul style="list-style-type: none"> <li>a. Read on-level text with purpose and understanding.</li> <li>b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression.</li> <li>c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.</li> </ul> |
|--|--|--|

## 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*<sup>1</sup>

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.<sup>2</sup>
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.

<sup>1</sup>These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.

<sup>2</sup>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.

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:

### 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 . . .*).
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.
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.

### Production and Distribution of Writing

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.
6. With guidance and support from adults, explore 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).
8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

9. (Begins in grade 4)

### Range of Writing

10. (Begins in grade 3)

## Grade 1 students:

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.
2. Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.
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.

4. (Begins in grade 3)

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.

6. With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

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).

8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

9. (Begins in grade 4)

10. (Begins in grade 3)

## Grade 2 students:

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. 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. 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.

4. (Begins in grade 3)

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, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

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. Recall information from experiences or gather information from provided sources to answer a question.

9. (Begins in grade 4)

10. (Begins in grade 3)

**Grade 3 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.

**Grade 4 students:**

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.

**Grade 5 students:**

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 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:**

*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.)
5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.
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.

*Research to Build Knowledge*

7. Conduct short research projects that build knowledge about 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.
9. (Begins in grade 4)

**Grade 4 students:**

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.
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.

7. Conduct short research projects that build knowledge through investigation of different aspects of a topic.
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.

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”).

**Grade 5 students:**

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, editing, rewriting, or trying a new approach.
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.

7. Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.
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. 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.

## 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.

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:

#### *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.

### Grade 1 students:

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.

2. Confirm understanding of written texts read aloud or information presented orally or through media by asking and answering questions about key details.
3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.

### Grade 2 students:

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. Recount or describe key ideas or details from written texts read aloud or information presented orally or through media.
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.
5. Add drawings or other visual displays to descriptions as desired to provide additional detail.

4. Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
5. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.

4. Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.

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.)

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. 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:****Comprehension and Collaboration**

- 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.
  - 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).
  - Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.
  - Explain their own ideas and understanding in light of the discussion.

**Grade 4 students:**

- 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.
  - 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.
  - Follow agreed-upon rules for discussions and carry out assigned roles.
  - 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.
  - Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.
- Paraphrase portions of written texts read aloud or information presented graphically, orally, visually, or multimodally.
- Identify the reasons and evidence a speaker provides to support particular points.
- 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.
- Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.
- 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.)

**Grade 5 students:**

- 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.
  - 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.
  - Follow agreed-upon rules for discussions and carry out assigned roles.
  - Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.
  - Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.
- Summarize written texts read aloud or information presented graphically, orally, visually, or multimodally.
- Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.
- 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.
- Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.
- 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.)

**Presentation of Knowledge and Ideas**

- 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.
- 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.
- 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.)
- 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.
- Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.
- 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.

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**

- |  |   |   |
|--|---|---|
| <p><b>1.</b> Observe conventions of grammar and usage when writing or speaking.</p> <ul style="list-style-type: none"> <li>a. Print many upper- and lowercase letters.</li> <li>b. Use frequently occurring nouns and verbs.</li> <li>c. Form regular plural nouns orally by adding /s/ or /es/ (e.g., <i>dog, dogs; wish, wishes</i>).</li> <li>d. Understand and use question words (interrogatives) (e.g., <i>who, what, where, when, why, how</i>).</li> <li>e. Use the most frequently occurring prepositions (e.g., <i>to, from, in, out, on, off, for, of, by, with</i>).</li> <li>f. Produce and expand complete sentences in shared language activities.</li> </ul> | <p><b>1.</b> Observe conventions of grammar and usage when writing or speaking.</p> <ul style="list-style-type: none"> <li>a. Print all upper- and lowercase letters.</li> <li>b. Use common, proper, and possessive nouns.</li> <li>c. Use singular and plural nouns with matching verbs in basic sentences (e.g., <i>He hops; We hop</i>).</li> <li>d. Use personal, possessive, and indefinite pronouns (e.g., <i>I, me, my; they, them, their, anyone, everything</i>).</li> <li>e. Use verbs to convey a sense of past, present, and future (e.g., <i>Yesterday I walked home; Today I walk home; Tomorrow I will walk home</i>).</li> <li>f. Use frequently occurring adjectives.</li> <li>g. Use frequently occurring conjunctions (e.g., <i>and, but, or, so, because</i>).</li> <li>h. Use determiners (e.g., articles, demonstratives).</li> <li>i. Use frequently occurring prepositions (e.g., <i>during, beyond, toward</i>).</li> <li>j. Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to questions and prompts.</li> </ul> | <p><b>1.</b> Observe conventions of grammar and usage when writing or speaking.</p> <ul style="list-style-type: none"> <li>a. Use collective nouns (e.g., <i>group</i>).</li> <li>b. Form and use frequently occurring irregular plural nouns (e.g., <i>feet, children, teeth, mice, fish</i>).</li> <li>c. Use reflexive pronouns (e.g., <i>myself, ourselves</i>).</li> <li>d. Form and use the past tense of frequently occurring irregular verbs (e.g., <i>sat, hid, told</i>).</li> <li>e. Use adjectives and adverbs, and choose between them depending on what is to be modified.</li> <li>f. Produce, expand, and rearrange complete simple and compound sentences (e.g., <i>The boy watched the movie; The action movie was watched by the little boy</i>).</li> </ul> |
| <p><b>2.</b> Observe conventions of capitalization, punctuation, and spelling when writing.</p> <ul style="list-style-type: none"> <li>a. Capitalize the first word in a sentence and the pronoun <i>I</i>.</li> <li>b. Recognize and name end punctuation.</li> <li>c. Write a letter or letters for most consonant and short-vowel sounds (phonemes).</li> <li>d. Spell simple words phonetically, drawing on knowledge of sound-letter relationships.</li> </ul>  | <p><b>2.</b> Observe conventions of capitalization, punctuation, and spelling when writing.</p> <ul style="list-style-type: none"> <li>a. Capitalize dates and names of people.</li> <li>b. Use end punctuation for sentences.</li> <li>c. Use commas in dates and to separate single words in a series.</li> <li>d. Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words.</li> <li>e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions.</li> </ul>  | <p><b>2.</b> Observe conventions of capitalization, punctuation, and spelling when writing.</p> <ul style="list-style-type: none"> <li>a. Capitalize holidays, product names, and geographic names.</li> <li>b. Use commas in greetings and closings of letters.</li> <li>c. Use an apostrophe to form contractions and frequently occurring possessives.</li> <li>d. Generalize learned spelling patterns when writing words (e.g., <i>cage → badge; boy → boil</i>).</li> <li>e. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.</li> </ul>  |

**Effective Language Use**

- 3.** (Begins in grade 3)
- 3.** (Begins in grade 3)
- 3.** (Begins in grade 3)

**Kindergartners:****Vocabulary Acquisition and Use**

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *kindergarten reading and content*.
- Identify new meanings for familiar words and apply them accurately (e.g., knowing *duck* as a bird and learning the verb *to duck*).
  - 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.

**Grade 1 students:**

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.
- Use sentence-level context as a clue to the meaning of a word or phrase.
  - Use frequently occurring affixes as a clue to the meaning of a word.
  - Identify frequently occurring root words (e.g., *look*) and their inflectional forms (e.g., *looks*, *looked*, *looking*).

**Grade 2 students:**

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.
- Use sentence-level context as a clue to the meaning of a word or phrase.
  - Determine the meaning of the new word formed when a known prefix is added to a known word (e.g., *happy/unhappy*, *tell/retell*).
  - Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *addition*, *additional*).
  - Use knowledge of the meaning of individual words to predict the meaning of compound words (e.g., *birdhouse*, *lighthouse*, *housefly*; *bookshelf*, *notebook*, *bookmark*).
  - 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.
- Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent.
  - Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms).
  - Identify real-life connections between words and their use (e.g., note places at school that are *colorful*).
  - Distinguish shades of meaning among verbs describing the same general action (e.g., *walk*, *march*, *strut*, *prance*) by acting out the meanings.

6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

5. With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings.
- Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent.
  - 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).
  - Identify real-life connections between words and their use (e.g., note places at home that are *cozy*).
  - Distinguish shades of meaning among verbs differing in manner (e.g., *look*, *peek*, *glance*, *stare*, *glare*, *stowl*) and adjectives differing in intensity (e.g., *large*, *gigantic*) by defining or choosing them or by acting out the meanings.

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 Nibbles because she nibbles too much because she likes that*).

5. Demonstrate understanding of word relationships and nuances in word meanings.
- Identify real-life connections between words and their use (e.g., describe foods that are *spicy* or *juicy*).
  - Distinguish shades of meaning among closely related verbs (e.g., *toss*, *throw*, *hurt*) 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, including using adjectives and adverbs to describe (e.g., *When other kids are happy that makes me happy*).

## Grade 3 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.

## Grade 4 students:

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*).\*

## Grade 5 students:

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. 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.\*
  - 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:****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.
- Use sentence-level context as a clue to the meaning of a word or phrase.
  - 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*).
  - Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *company, companion*).
  - Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases.

**Grade 4 students:**

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.
- Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.
  - Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *telegraph, photograph, autograph*).
  - 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.

**Grade 5 students:**

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.
- Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase.
  - Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *photograph, photosynthesis*).
  - 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.
- Distinguish the literal and nonliteral meanings of words and phrases in context (e.g., *take steps*).
  - Identify real-life connections between words and their use (e.g., describe people who are *friendly* or *helpful*).
  - Distinguish shades of meaning among related words that describe states of mind or degrees of certainty (e.g., *knew, believed, suspected, heard, wondered*).
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*).
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
- Explain the meaning of simple similes and metaphors (e.g., *as pretty as a picture*) in context.
  - Recognize and explain the meaning of common idioms, adages, and proverbs.
  - Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).
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).
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
- Interpret figurative language, including similes and metaphors, in context.
  - Recognize and explain the meaning of common idioms, adages, and proverbs.
  - 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 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*).

## 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., <i>to/ too/ two; there/ their</i> ).								
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.								

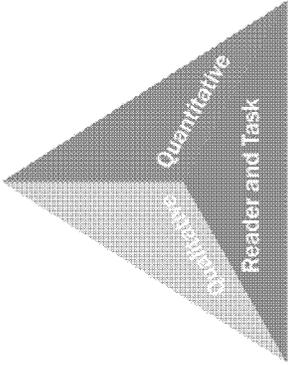
# Standard 10: Range, Quality, and Complexity of Student Reading K–5

## 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	
<b>Stories</b>	Includes children’s adventure stories, folktales, legends, fables, fantasy, realistic fiction, and myth	<b>Dramas</b>	<b>Literary Nonfiction and Historical, Scientific, and Technical Texts</b>
	Includes staged dialogue and brief familiar scenes	<b>Poetry</b>	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

## Texts Illustrating the Complexity, Quality, and Range of Student Reading K-5

\* Read-aloud  
\*\* Read-along

### Literature: Stories, Drama, Poetry

- *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)\*

- "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)

- "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)

- *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)
- "Zlatch 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)

### Informational Texts: Literary Nonfiction and Historical, Scientific, and Technical Texts

- *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)\*

- *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)\*

- *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)

- *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.

<sup>1</sup>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

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.

<p>The five senses and associated body parts</p> <ul style="list-style-type: none"> <li>▪ <i>My Five Senses</i> by Alikei (1989)</li> <li>▪ <i>Hearing</i> by Maria Rius (1985)</li> <li>▪ <i>Sight</i> by Maria Rius (1985)</li> <li>▪ <i>Smell</i> by Maria Rius (1985)</li> <li>▪ <i>Taste</i> by Maria Rius (1985)</li> <li>▪ <i>Touch</i> by Maria Rius (1985)</li> </ul> <p>Taking care of your body:</p> <p>Overview (hygiene, diet, exercise, rest)</p> <ul style="list-style-type: none"> <li>▪ <i>My Amazing Body: A First Look at Health &amp; Fitness</i> by Pat Thomas (2001)</li> <li>▪ <i>Get Up and Go!</i> by Nancy Carlson (2008)</li> <li>▪ <i>Go Wash Up</i> by Doering Tourville (2008)</li> <li>▪ <i>Sleep</i> by Paul Showers (1997)</li> <li>▪ <i>Fuel the Body</i> by Doering Tourville (2008)</li> </ul>	<p>Introduction to the systems of the human body and associated body parts</p> <ul style="list-style-type: none"> <li>▪ <i>Under Your Skin: Your Amazing Body</i> by Mick Manning (2007)</li> <li>▪ <i>Me and My Amazing Body</i> by Joan Sweeney (1999)</li> <li>▪ <i>The Human Body</i> by Gallimard Jeunesse (2007)</li> <li>▪ <i>The Busy Body Book</i> by Lizzy Rockwell (2008)</li> <li>▪ <i>First Encyclopedia of the Human Body</i> by Fiona Chandler (2004)</li> </ul> <p>Taking care of your body: germs, diseases, and preventing illness</p> <ul style="list-style-type: none"> <li>▪ <i>Germs Make Me Sick</i> by Marilyn Berger (1995)</li> <li>▪ <i>Tiny Life on Your Body</i> by Christine Taylor-Butler (2005)</li> <li>▪ <i> germ Stories</i> by Arthur Kornberg (2007)</li> <li>▪ <i>All About Scabs</i> by Genichiro Yagu (1998)</li> </ul>	<p>Digestive and excretory systems</p> <ul style="list-style-type: none"> <li>▪ <i>What Happens to a Hamburger</i> by Paul Showers (1985)</li> <li>▪ <i>The Digestive System</i> by Christine Taylor-Butler (2008)</li> <li>▪ <i>The Digestive System</i> by Rebecca L. Johnson (2006)</li> <li>▪ <i>The Digestive System</i> by Kristin Petrie (2007)</li> </ul> <p>Muscular, skeletal, and nervous systems</p> <ul style="list-style-type: none"> <li>▪ <i>The Mighty Muscular and Skeletal Systems</i> Crabtree Publishing (2009)</li> <li>▪ <i>Muscles</i> by Seymour Simon (1998)</li> <li>▪ <i>Bones</i> by Seymour Simon (1998)</li> <li>▪ <i>The Astounding Nervous System</i> Crabtree Publishing (2009)</li> <li>▪ <i>The Nervous System</i> by Joelle Riley (2004)</li> </ul>	<p>Circulatory system</p> <ul style="list-style-type: none"> <li>▪ <i>The Heart</i> by Seymour Simon (2006)</li> <li>▪ <i>The Heart and Circulation</i> by Carol Ballard (2005)</li> <li>▪ <i>The Circulatory System</i> by Kristin Petrie (2007)</li> <li>▪ <i>The Amazing Circulatory System</i> by John Burstein (2009)</li> </ul> <p>Respiratory system</p> <ul style="list-style-type: none"> <li>▪ <i>The Lungs</i> by Seymour Simon (2007)</li> <li>▪ <i>The Respiratory System</i> by Susan Glass (2004)</li> <li>▪ <i>The Respiratory System</i> by Kristin Petrie (2007)</li> <li>▪ <i>The Remarkable Respiratory System</i> by John Burstein (2009)</li> </ul> <p>Endocrine system</p> <ul style="list-style-type: none"> <li>▪ <i>The Endocrine System</i> by Rebecca Olien (2006)</li> <li>▪ <i>The Exciting Endocrine System</i> by John Burstein (2009)</li> </ul>
--	---	--	---

# Standards for English Language Arts

6-12

DRAFT

## 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:

#### *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.
2. Determine a theme or central idea of a text and analyze its development over the course of the text; summarize the text.
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.

#### *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.
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.
6. Explain how an author establishes and develops the point of view of the narrator or speaker in a text.

#### *Integration of Knowledge and Ideas*

7. Compare and contrast the experience of reading a story, poem, or drama 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.
8. (Not applicable to literature)

### Grade 7 students:

1. Cite several pieces of textual evidence to support 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, including its relationship to the characters, setting, and plot; summarize the text.
3. Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).

#### *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 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.
5. Analyze how a drama's or poem's form or structure (e.g., sonnet, soliloquy) contributes to its meaning.
6. Analyze how an author establishes and contrasts the points of view of different characters or narrators in a text.

### Grade 8 students:

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, including how it is conveyed through particular details; provide an accurate summary of the text distinct from personal opinions or judgments.
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 analogies or allusions to other texts; analyze the impact of specific word choices on meaning and tone.
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 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.

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).
8. (Not applicable to literature)

**Grade 6 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.

**Grade 7 students:**

- 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.

**Grade 8 students:**

- 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.

**Grades 9–10 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.
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.
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.

**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).
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.
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).

**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*).
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.

**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.

**Grades 11–12 students:**

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 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. 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.

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 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 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.

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)

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.

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.

# Reading Standards for Informational Text 6–12

[RI]

## Grade 6 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.
2. Determine a central idea of a text and analyze its development over the course of the text; summarize the text.
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).

### 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.
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.
6. Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.

### 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.
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.
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).

## Grade 7 students:

1. Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from 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.
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).

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.
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.
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.

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).

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.
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.

## Grade 8 students:

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, including how it is conveyed through particular details; provide an accurate summary of the text distinct from personal opinions or judgments.
3. Analyze how a text makes connections among and distinctions between key individuals, ideas, or events (e.g., through comparisons, analogies, or categories).

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 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 analyze how the author acknowledges and responds to conflicting evidence or viewpoints.

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, assessing whether the reasoning is sound and the evidence is relevant and sufficient and identifying when irrelevant evidence is introduced.
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:**

***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.

**Grade 7 students:**

**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.

**Grade 8 students:**

**10.** By the end of the year, read and comprehend literary nonfiction in the grades 6–8 text complexity band independently and proficiently.

**Grades 9–10 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.
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.
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.

*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).
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).
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.

*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.
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.
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.

*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.

**Grades 11–12 students:**

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 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 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.
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 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 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).

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, identifying and evaluating stated and unstated premises and assumptions.
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.
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*<sup>1</sup>

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.<sup>2</sup>
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.

<sup>1</sup>These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.

<sup>2</sup>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 of annotated student writing samples in Appendix C.

**Grade 6 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.

**Grade 7 students:**

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.

**Grade 8 students:**

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 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:**

**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.
- 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.
  - Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters.
  - Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another.
  - Use precise words and phrases, relevant descriptive details, and sensory language to convey experiences and events.
  - Provide a conclusion that follows from the narrated experiences or events.

**Grade 7 students:**

- 3.** Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.
- 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.
  - Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters.
  - Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another.
  - Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.
  - Provide a conclusion that follows from and reflects on the narrated experiences or events.

**Grade 8 students:**

- 3.** Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.
- 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.
  - Use narrative techniques, such as dialogue, pacing, description, and reflection, to develop experiences, events, and/or characters.
  - 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.
  - Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.
  - Provide a conclusion that follows from and reflects on the narrated experiences or events.

**Production and Distribution of Writing**

- 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.)
- 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.
- 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.

- 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.)
- 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.
- 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.

- 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.)
- 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.
- 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:**

*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.
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.
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”).

**Grade 7 students:**

7. Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and 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.
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”).

**Grade 8 students:**

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, 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 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:**

**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.

**Grades 11–12 students:**

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 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:**

*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.

**Grades 11–12 students:**

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.)
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.

*Research to Build and Present Knowledge*

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.

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.
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.
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 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:****Research to Build and Present Knowledge (continued)**

- 9.** Draw evidence from literary or informational texts to support analysis, reflection, and research.
- 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”).
  - 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”).

**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.

**Grades 11–12 students:**

- 9.** Draw evidence from literary or informational texts to support analysis, reflection, and research.
- 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”).
  - 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”).

- 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.

## 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.

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:

#### Comprehension and Collaboration

- 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.
  - 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.
  - With guidance and support from adults, work with peers to set rules for collegial discussions, clear goals and deadlines, and individual roles as needed.
  - Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion.
  - Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.

### Grade 7 students:

- 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.
  - 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.
  - Work with peers to set rules for collegial discussions, clear goals and deadlines, and individual roles as needed.
  - 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.
  - Acknowledge new information expressed by others and, when warranted, modify their own views and understanding.

### Grade 8 students:

- 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.
  - 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.
  - Work with peers to set rules for collegial discussions, clear goals and deadlines, and individual roles as needed.
  - 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.
  - Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views and understanding in light of the evidence presented.

- Interpret information presented in graphical, oral, visual or multimodal formats and explain how it contributes to a topic, text, or issue under study.
- Delineate a speaker’s argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.

#### Presentation of Knowledge and Ideas

- 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.
- Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
- 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.)

- Determine the purpose of information in graphical, oral, visual, or multimodal formats and evaluate the motives (e.g., social, commercial, political) behind its presentation.
- Delineate a speaker’s argument and specific claims, evaluating the validity of the reasoning and sufficiency of the evidence.
- 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.
- Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.
- 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:****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.
2. Synthesize information from multiple graphical, visual, or multimodal sources with other information presented orally, noting any discrepancies among the data.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.

**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.
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.)

**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 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. 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, 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, 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 of 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.
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.

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

- |   |   |   |
|---|---|---|
| <p><b>1.</b> Observe conventions of grammar and usage when writing or speaking.</p> <ol style="list-style-type: none"> <li>Ensure that pronouns are in the proper case (subjective, objective, possessive).</li> <li>Use intensive pronouns (e.g., <i>myself</i>, <i>ourselves</i>).</li> <li>Recognize and correct inappropriate shifts in pronoun number and person.*</li> <li>Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).*</li> <li>Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.*</li> </ol> | <p><b>1.</b> Observe conventions of grammar and usage when writing or speaking.</p> <ol style="list-style-type: none"> <li>Explain the function of phrases and clauses in general and their function in specific sentences.</li> <li>Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas.</li> <li>Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.*</li> </ol> | <p><b>1.</b> Observe conventions of grammar and usage when writing or speaking.</p> <ol style="list-style-type: none"> <li>Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences.</li> <li>Form and use verbs in the active and passive voice.</li> <li>Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood.</li> <li>Recognize and correct inappropriate shifts in verb voice and mood.*</li> </ol> |
| <p><b>2.</b> Observe conventions of capitalization, punctuation, and spelling when writing.</p> <ol style="list-style-type: none"> <li>Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.*</li> <li>Spell correctly.</li> </ol>  | <p><b>2.</b> Observe conventions of capitalization, punctuation, and spelling when writing.</p> <ol style="list-style-type: none"> <li>Use a comma to separate coordinate adjectives (e.g., <i>It was a <u>fascinating</u>, <u>enjoyable</u> movie but not <i>He wore an <u>old</u>, <u>green</u> shirt</i>).</i></li> <li>Spell correctly.</li> </ol>  | <p><b>2.</b> Observe conventions of capitalization, punctuation, and spelling when writing.</p> <ol style="list-style-type: none"> <li>Use punctuation (comma, ellipsis, dash) to indicate a pause or break.</li> <li>Use an ellipsis to indicate an omission.</li> <li>Spell correctly.</li> </ol>   |

#### Effective Language Use

- |  |   |  |
|--|---|--|
| <p><b>3.</b> Use language to enhance meaning, convey style, and achieve particular effects when writing or speaking.</p> <ol style="list-style-type: none"> <li>Vary sentence patterns for meaning, reader/listener interest, and style.*</li> <li>Maintain consistency in style and tone.*</li> </ol> | <p><b>3.</b> Use language to enhance meaning, convey style, and achieve particular effects when writing or speaking.</p> <ol style="list-style-type: none"> <li>Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.*</li> </ol> | <p><b>3.</b> Use language to enhance meaning, convey style, and achieve particular effects when writing or speaking.</p> <ol style="list-style-type: none"> <li>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).</li> </ol> |
|--|---|--|

## Grade 6 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.
- 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.
  - Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *audience*, *auditory*, *audible*).
  - 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.
  - 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).

## Grade 7 students:

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.
- 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.
  - Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *belligerent*, *bellicose*, *rebel*).
  - 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.
  - 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).

## Grade 8 students:

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.
- 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.
  - Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *precede*, *recede*, *secede*).
  - 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.
  - 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.
- Interpret figures of speech (e.g., personification) in context.
  - Use the relationship between particular words (e.g., cause/effect, part/whole, item/category) to better understand each of the words.
  - Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *stingy*, *scrupulous*, *economical*, *unwasteful*, *thrifty*).
6. Acquire and use accurately grade-appropriate general academic and domain-specific vocabulary.
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.
- 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.
  - Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *belligerent*, *bellicose*, *rebel*).
  - 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.
  - 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.
- Interpret figures of speech (e.g., literary, biblical, and mythological allusions) in context.
  - Use the relationship between particular words (e.g., synonym/antonym, analogy) to better understand each of the words.
  - Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *refined*, *respectful*, *polite*, *diplomatic*, *condescending*).
6. Acquire and use accurately grade-appropriate general academic and domain-specific vocabulary.
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 8 reading and content*, choosing flexibly from a range of strategies.
- 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.
  - Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *precede*, *recede*, *secede*).
  - 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.
  - 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.
- Interpret figures of speech (e.g., verbal irony, puns) in context.
  - Use the relationship between particular words to better understand each of the words.
  - 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.

## Grades 9–10 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.
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.

## 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.

## 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).

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.

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.

## Grades 11–12 students:

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*, *Garnet's Modern American English*) as needed.
2. Observe conventions of capitalization, punctuation, and spelling when writing.
  - a. Observe hyphenation conventions.
  - b. Spell correctly.

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.

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., 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.

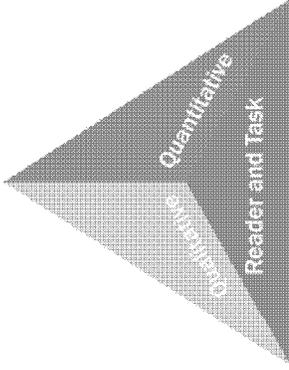
## Language Progressive Skills, by Grade

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., <i>to/ too/ two; there/ their</i> ).								
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	
<b>Stories</b>	Includes the subgenres of adventure stories, historical fiction, mysteries, myths, science fiction, realistic fiction, allegories, parodies, satire, and graphic novels	<b>Poetry</b>	<b>Literary Nonfiction</b>
<b>Drama</b>	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

## Texts Illustrating the Complexity, Quality, and Range of Student Reading 6–12

### Literature: Stories, Dramas, Poetry

### Informational Texts: Literary Nonfiction

- |        |   |  |
|--------|---|--|
| 6–8    | <ul style="list-style-type: none"> <li>▪ <i>Little Women</i> by Louisa May Alcott (1869)</li> <li>▪ <i>The Adventures of Tom Sawyer</i> by Mark Twain (1876)</li> <li>▪ “The Road Not Taken” by Robert Frost (1915)</li> <li>▪ <i>The Dark Is Rising</i> by Susan Cooper (1973)</li> <li>▪ <i>Dragonwings</i> by Laurence Yep (1975)</li> <li>▪ <i>Roll of Thunder, Hear My Cry</i> by Mildred Taylor (1976)</li> </ul>   | <ul style="list-style-type: none"> <li>▪ “Letter on Thomas Jefferson” by John Adams (1776)</li> <li>▪ <i>Narrative of the Life of Frederick Douglass, an American Slave</i> by Frederick Douglass (1845)</li> <li>▪ <i>Harriet Tubman: Conductor on the Underground Railroad</i> by Ann Petry (1955)</li> <li>▪ <i>Travels with Charley: In Search of America</i> by John Steinbeck (1962)</li> <li>▪ <i>The Great Fire</i> by Jim Murphy (1995)</li> <li>▪ <i>This Land Was Made for You and Me: The Life and Songs of Woody Guthrie</i> by Elizabeth Partridge (2002)</li> </ul> |
| 9–10   | <ul style="list-style-type: none"> <li>▪ <i>The Tragedy of Romeo and Juliet</i> by William Shakespeare (1592)</li> <li>▪ “Ozymandias” by Percy Bysshe Shelley (1817)</li> <li>▪ “The Raven” by Edgar Allan Poe (1845)</li> <li>▪ “The Gift of the Magi” by O. Henry (1906)</li> <li>▪ <i>The Grapes of Wrath</i> by John Steinbeck (1939)</li> <li>▪ <i>Fahrenheit 451</i> by Ray Bradbury (1953)</li> <li>▪ <i>The Killer Angels</i> by Michael Shaara (1975)</li> </ul>                               | <ul style="list-style-type: none"> <li>▪ “Speech to the Second Virginia Convention” by Patrick Henry (1775)</li> <li>▪ The Declaration of Independence by Thomas Jefferson (1776)</li> <li>▪ “Second Inaugural Address” by Abraham Lincoln (1865)</li> <li>▪ “State of the Union Address” by Franklin Delano Roosevelt (1941)</li> <li>▪ <i>God: A Biography of the Fish That Changed the World</i> by Mark Kurlansky (1997)</li> <li>▪ <i>The Race to Save Lord God Bird</i> by Phillip Hoose (2004)</li> </ul>   |
| 11–CCR | <ul style="list-style-type: none"> <li>▪ “Ode on a Grecian Urn” by John Keats (1820)</li> <li>▪ <i>Jane Eyre</i> by Charlotte Brontë (1848)</li> <li>▪ “Because I Could Not Stop for Death” by Emily Dickinson (1890)</li> <li>▪ <i>The Great Gatsby</i> by F. Scott Fitzgerald (1925)</li> <li>▪ <i>Their Eyes Were Watching God</i> by Zora Neale Hurston (1937)</li> <li>▪ <i>A Raisin in the Sun</i> by Lorraine Hansberry (1959)</li> <li>▪ <i>The Namesake</i> by Jhumpa Lahiri (2003)</li> </ul> | <ul style="list-style-type: none"> <li>▪ <i>The Crisis</i> by Thomas Paine (1776)</li> <li>▪ <i>Walden</i> by Henry David Thoreau (1854)</li> <li>▪ “Society and Solitude” by Ralph Waldo Emerson (1857)</li> <li>▪ “Gettysburg Address” by Abraham Lincoln (1863)</li> <li>▪ “Letter from Birmingham Jail” by Martin Luther King, Jr. (1964)</li> <li>▪ <i>Google Hacks: Tips &amp; Tools for Smarter Searching</i> by Tara Calishain and Rael Dornfest (2004)</li> <li>▪ <i>America’s Constitution: A Biography</i> by Akhil Reed Amar (2005)</li> </ul>                         |

**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.

**Standards for Literacy  
in History/Social Studies,  
Science, and Technical Subjects**

---

**6-12**

---

## 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:

### Key Ideas and Details

1. Cite specific textual evidence to support analysis of primary and secondary sources.
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.
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).

## Grades 9–10 students:

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.
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.
3. Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.

## Grades 11–12 students:

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 that makes clear the relationships among the key details and ideas.
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.
5. Describe how a text presents information (e.g., sequentially, comparatively, causally).
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).

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. 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. 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.
8. Distinguish among fact, opinion, and reasoned judgment in a text.
9. Analyze the relationship between a primary and secondary source on the same topic.

7. Integrate quantitative or technical information (e.g., charts, research data) with other information within or across print or digital texts.
8. Assess the extent to which the evidence in a text supports the author’s claims.
9. Compare and contrast treatments of the same topic in several primary and secondary sources.

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. Evaluate an author’s premises, claims, and evidence by corroborating or challenging them with other sources of information.
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.

# Reading Standards for Literacy in Science and Technical Subjects 6–12

[RST]

## Grades 6–8 students:

### Key Ideas and Details

1. Cite specific textual evidence to support analysis of science and technical texts.
2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

### 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*.
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.
6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.

### 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).
8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
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.

### Range and Level of Text Complexity

10. By the end of grade 8, read and comprehend

## Grades 9–10 students:

1. Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
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.
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.

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*.
5. Analyze the structure of the relationships among concepts in a text, including relationships among key terms *(friction, reaction force, energy)*.
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.

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.
8. Assess the extent to which the evidence in a text supports a claim or a recommendation for solving a scientific or technical problem.
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.

10. By the end of grade 10, read and comprehend

## Grades 11–12 students:

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; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
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.

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 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, identifying important issues that remain unresolved or uncertain.

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. 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. 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.

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.



## 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*<sup>1</sup>

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.<sup>2</sup>
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.

<sup>1</sup>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.

# Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6–12

[WHST]

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:

### 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.

## Grades 9–10 students:

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.

## Grades 11–12 students:

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.

**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.** 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.
- 4.** 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.** 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.** 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.

**Grades 6–8 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.
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 five pages of writing as well as to interact and collaborate with others.

**Grades 9–10 students:**

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, 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.

**Grades 11–12 students:**

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, 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 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.
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.
10. Draw evidence from informational texts to support analysis, reflection, and research.

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.
9. Draw evidence from informational texts to support analysis, reflection, and research.

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 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.
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 .....	?
<b>Postscript: A Note on High School Courses</b> .....	?
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

Domain

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

Cluster

Standard

**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 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  $7 \times 8$  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  $2 \times 7$  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	<ul style="list-style-type: none"> <li>• Know number names and the count sequence.</li> <li>• Count to tell the number of objects.</li> <li>• Compare numbers.</li> </ul>	<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> </ol>	Mathematical Practices
Operations and Algebraic Thinking	<ul style="list-style-type: none"> <li>• Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</li> </ul>	<ol style="list-style-type: none"> <li>4. Model with mathematics.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> </ol>	
Number and Operations in Base Ten	<ul style="list-style-type: none"> <li>• Work with numbers 11-19 to gain foundations for place value.</li> </ul>	<ol style="list-style-type: none"> <li>8. Look for and express regularity in repeated reasoning.</li> </ol>	
Measurement and Data	<ul style="list-style-type: none"> <li>• Describe and compare measurable attributes.</li> <li>• Classify objects and count the number of objects in each category</li> </ul>		
Geometry	<ol style="list-style-type: none"> <li>1. Identify and describe shapes.</li> <li>2. Analyze, compare, create, and compose shapes.</li> </ol>		

## 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.<sup>1</sup>
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,<sup>2</sup> 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.<sup>3</sup>

---

<sup>1</sup> Include groups with up to ten objects.

<sup>2</sup> 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.

---

<sup>2</sup> 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.<sup>4</sup>

(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.

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

---

<sup>4</sup> Students should apply the principle of transitivity of measurement to make indirect comparisons, but they need not use this technical term.

**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.<sup>5</sup>
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.<sup>6</sup> 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  $8 + ? = 11$ ,  $5 = \square - 3$ ,  $6 + 6 = \square$ .

## 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.

<sup>5</sup> See Glossary, Table 1.<sup>6</sup> Students need not use formal terms for these properties.

**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.<sup>7</sup>
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.

---

<sup>7</sup> 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	<ul style="list-style-type: none"> <li>• Represent and solve problems involving addition and subtraction.</li> <li>• Add and subtract within 20.</li> <li>• Work with equal groups of objects to gain foundations for multiplication.</li> </ul>	<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> <li>8. Look for and express regularity in repeated reasoning.</li> </ol>	Mathematical Practices
Number and Operations in Base Ten	<ul style="list-style-type: none"> <li>• Understand place value.</li> <li>• Use place value understanding and properties of operations to add and subtract.</li> </ul>		
Measurement and Data	<ul style="list-style-type: none"> <li>• Measure and estimate lengths in standard units.</li> <li>• Relate addition and subtraction to length.</li> <li>• Work with time and money.</li> <li>• Represent and interpret data.</li> </ul>		
Geometry	<ul style="list-style-type: none"> <li>• Reason with shapes and their attributes.</li> </ul>		

## 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.<sup>8</sup>

### 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.<sup>9</sup>

## 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.

---

<sup>8</sup> See Glossary, Table 1.

<sup>9</sup> 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<sup>10</sup> 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.<sup>11</sup> 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.

---

<sup>10</sup> See Glossary, Table 1.

<sup>11</sup> 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,  $\frac{1}{2}$  of the paint in a large bucket could be less paint than  $\frac{1}{3}$  of the paint in a smaller bucket; but  $\frac{1}{3}$  of a ribbon is longer than  $\frac{1}{5}$  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	<ul style="list-style-type: none"> <li>• Represent and solve problems involving multiplication and division.</li> <li>• Understand properties of multiplication and the relationship between multiplication and division.</li> <li>• Multiply and divide within 100.</li> <li>• Solve problems involving the four operations, and identify and explain patterns in arithmetic.</li> </ul>	<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> <li>8. Look for and express regularity in repeated reasoning.</li> </ol>	Mathematical Practices
Number and Operations in Base Ten	<ul style="list-style-type: none"> <li>• Use place value understanding and properties of operations to perform multi-digit arithmetic.</li> </ul>		
Number and Operations—Fractions	<ul style="list-style-type: none"> <li>• Develop understanding of fractions as numbers.</li> </ul>		
Measurement and Data	<ul style="list-style-type: none"> <li>• Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.</li> <li>• Represent and interpret data.</li> <li>• Geometric measurement: understand concepts of area and relate area to multiplication and to addition.</li> <li>• Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.</li> </ul>		
Geometry	<ul style="list-style-type: none"> <li>• Reason with shapes and their attributes.</li> </ul>		

**Represent and solve problems involving multiplication and division.**

1. Interpret products of whole numbers, e.g., interpret  $5 \times 7$  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  $5 \times 7$ .
2. Interpret whole-number quotients of whole numbers, e.g., interpret  $56 \div 8$  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  $56 \div 8$ .
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.<sup>12</sup>
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  $8 \times ? = 48$ ,  $5 = \square \div 3$ ,  $6 \times 6 = ?$ .

**Understand properties of multiplication and the relationship between multiplication and division.**

5. Apply properties of operations as strategies to multiply and divide.<sup>13</sup> Examples: If  $6 \times 4 = 24$  is known, then  $4 \times 6 = 24$  is also known. (*Commutative property of multiplication.*)  $3 \times 5 \times 2$  can be found by multiplying  $3 \times 5 = 15$  then multiplying  $15 \times 2 = 30$ , or by multiplying  $5 \times 2 = 10$  then multiplying  $3 \times 10 = 30$ . (*Associative property of multiplication.*) Knowing that  $8 \times 5 = 40$  and  $8 \times 2 = 16$ , one can find  $8 \times 7$  as  $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$ . (*Distributive property.*)
6. Understand division as an unknown-factor problem. For example, divide  $32 \div 8$  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  $8 \times 5 = 40$ , one knows  $40 \div 5 = 8$ ) 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.<sup>14</sup>
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.

**Use place value understanding and properties of operations to perform multi-digit arithmetic.**<sup>15</sup>

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.,  $9 \times 80$ ,  $5 \times 60$ ) using strategies based on place value and properties of operations.

**Develop understanding of fractions as numbers.**

1. Understand a fraction  $\frac{1}{b}$  as the quantity formed by 1 part when a whole is partitioned into  $b$  equal parts; understand a fraction  $\frac{a}{b}$  as the quantity formed by  $a$  parts of size  $\frac{1}{b}$ .
2. Understand a fraction as a number on the number line; represent fractions on a number line diagram.

<sup>12</sup> See Glossary, Table 2.

<sup>13</sup> Students need not use formal terms for these properties.

<sup>14</sup> 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.

<sup>15</sup> A range of algorithms may be used.

<sup>16</sup> Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, 8.

- a. Represent a fraction  $\frac{1}{b}$  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  $\frac{1}{b}$  and that the endpoint of the part based at 0 locates the number  $\frac{1}{b}$  on the number line.
  - b. Represent a fraction  $\frac{a}{b}$  on a number line diagram by marking off  $a$  lengths  $\frac{1}{b}$  from 0. Recognize that the resulting interval has size  $\frac{a}{b}$  and that its endpoint locates the number  $\frac{a}{b}$  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.,  $\frac{1}{2} = \frac{2}{4}$ ,  $\frac{4}{6} = \frac{2}{3}$ ); 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  $3 = \frac{3}{1}$ ; recognize that  $\frac{6}{1} = 6$ ; locate  $\frac{4}{4}$  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).<sup>17</sup> 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.<sup>18</sup>

### 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

---

<sup>17</sup> Excludes compound units such as  $\text{cm}^3$  and finding the geometric volume of a container.

<sup>18</sup> 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  $\frac{1}{4}$  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	<ul style="list-style-type: none"> <li>Use the four operations with whole numbers to solve problems.</li> <li>Gain familiarity with factors and multiples.</li> <li>Generate and analyze patterns.</li> </ul>	<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> </ol>	Mathematical Practices
Number and Operations in Base Ten	<ul style="list-style-type: none"> <li>Generalize place value understanding for multi-digit whole numbers.</li> <li>Use place value understanding and properties of operations to perform multi-digit arithmetic.</li> </ul>	<ol style="list-style-type: none"> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics.</li> </ol>	
Number and Operations—Fractions	<ul style="list-style-type: none"> <li>Extend understanding of fraction equivalence and ordering.</li> <li>Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.</li> <li>Understand decimal notation for fractions, and compare decimal fractions.</li> </ul>	<ol style="list-style-type: none"> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> </ol>	
Measurement and Data	<ul style="list-style-type: none"> <li>Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.</li> <li>Represent and interpret data.</li> <li>Geometric measurement: understand concepts of angle and measure angles.</li> </ul>	<ol style="list-style-type: none"> <li>8. Look for and express regularity in repeated reasoning.</li> </ol>	
Geometry	<ul style="list-style-type: none"> <li>Draw and identify lines and angles, and classify shapes by properties of their lines and angles.</li> </ul>		

**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.<sup>19</sup>
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<sup>20</sup> 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.<sup>21</sup>**

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<sup>22</sup> 4.NF

**Extend understanding of fraction equivalence and ordering.**

1. Explain why a fraction  $\frac{a}{b}$  is equivalent to a fraction  $\frac{(n \times a)}{(n \times b)}$  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  $\frac{1}{2}$ ; 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.

<sup>19</sup> See Glossary, Table 2.

<sup>20</sup> Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.

<sup>21</sup> A range of algorithms may be used.

<sup>22</sup> 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.<sup>23</sup> 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.;  $\ell$ , 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:

---

<sup>23</sup> 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  $\frac{1}{360}$  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	<ul style="list-style-type: none"> <li>Write and interpret numerical expressions.</li> <li>Analyze patterns and relationships.</li> </ul>	1. Make sense of problems and persevere in solving them.	Mathematical Practices
Number and Operations in Base Ten	<ul style="list-style-type: none"> <li>Understand the place value system.</li> <li>Perform operations with multi-digit whole numbers and with decimals to hundredths.</li> </ul>	2. Reason abstractly and quantitatively.	
Number and Operations—Fractions	<ul style="list-style-type: none"> <li>Use equivalent fractions as a strategy to add and subtract fractions.</li> <li>Apply and extend previous understandings of multiplication and division to multiply and divide fractions.</li> </ul>	3. Construct viable arguments and critique the reasoning of others.	
Measurement and Data	<ul style="list-style-type: none"> <li>Convert like measurement units within a given measurement system.</li> <li>Represent and interpret data.</li> <li>Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.</li> </ul>	4. Model with mathematics.	
Geometry	<ul style="list-style-type: none"> <li>Graph points on the coordinate plane to solve real-world and mathematical problems.</li> <li>Classify two-dimensional figures into categories based on their properties.</li> </ul>	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  $(\frac{a}{b}) \times q$  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  $(\frac{2}{3}) \times 4 = \frac{8}{3}$ , and create a story context for this equation; do the same with  $(\frac{2}{3}) \times (\frac{4}{5}) = \frac{8}{15}$ . (In general,  $(\frac{a}{b}) \times (\frac{c}{d}) = \frac{ac}{bd}$ .)
  - 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  $\frac{a}{b} = \frac{(n \times a)}{(n \times b)}$  to the effect of multiplying  $\frac{a}{b}$  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.<sup>24</sup>
  - a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for  $(\frac{1}{3}) \div 4$  and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that  $(\frac{1}{3}) \div 4 = \frac{1}{12}$  because  $(\frac{1}{12}) \times 4 = \frac{1}{3}$ .
  - b. Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for  $4 \div (\frac{1}{5})$  and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that  $4 \div (\frac{1}{5}) = 20$  because  $20 \times (\frac{1}{5}) = 4$ .
  - 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  $\frac{1}{2}$  lb of chocolate equally? How many  $\frac{1}{3}$ -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 ( $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ ). 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.

---

<sup>24</sup> 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	<ul style="list-style-type: none"><li>Understand ratio concepts and use ratio reasoning to solve problems.</li></ul>	1. Make sense of problems and persevere in solving them.	Mathematical Practices
The Number System	<ul style="list-style-type: none"><li>Apply and extend previous understandings of multiplication and division to divide fractions by fractions.</li><li>Apply and extend previous understandings of numbers to the system of rational numbers.</li></ul>	2. Reason abstractly and quantitatively.	
Expressions and Equations	<ul style="list-style-type: none"><li>Apply and extend previous understandings of arithmetic to algebraic expressions.</li><li>Reason about and solve one-variable equations and inequalities.</li><li>Represent and analyze quantitative relationships between dependent and independent variables.</li></ul>	3. Construct viable arguments and critique the reasoning of others.	
Geometry	<ul style="list-style-type: none"><li>Solve real-world and mathematical problems involving area, surface area, and volume.</li></ul>	4. Model with mathematics.	
Statistics and Probability	<ul style="list-style-type: none"><li>Develop understanding of statistical variability.</li><li>Summarize and describe distributions.</li></ul>	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.	

**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.”<sup>1</sup>*
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  $-3^{\circ}\text{C} > -7^{\circ}\text{C}$  to express the fact that  $-3^{\circ}\text{C}$  is warmer than  $-7^{\circ}\text{C}$ .*
6. Understand absolute value and its relationship to the order of rational numbers.

---

<sup>1</sup> 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	<ul style="list-style-type: none"> <li>Analyze proportional relationships and use them to solve real-world and mathematical problems.</li> </ul>	1. Make sense of problems and persevere in solving them.	Mathematical Practices
The Number System	<ul style="list-style-type: none"> <li>Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.</li> </ul>	2. Reason abstractly and quantitatively.	
Expressions and Equations	<ul style="list-style-type: none"> <li>Use properties of operations to generate equivalent expressions.</li> <li>Solve real-life and mathematical problems using numerical and algebraic expressions and equations.</li> </ul>	3. Construct viable arguments and critique the reasoning of others.	
Geometry	<ul style="list-style-type: none"> <li>Draw, construct and describe geometrical figures and describe the relationships between them.</li> <li>Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.</li> </ul>	4. Model with mathematics.	
Statistics and Probability	<ul style="list-style-type: none"> <li>Use random sampling to draw inferences about a population</li> <li>Draw informal comparative inferences about two populations.</li> <li>Investigate chance processes and develop, use, and evaluate probability models.</li> </ul>	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  $\frac{1}{2}$  mile in each  $\frac{1}{4}$  hour, compute the unit rate as the complex fraction  $\frac{1}{2} \div \frac{1}{4}$  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.<sup>2</sup>

## 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,  $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$ .*

---

<sup>2</sup> Computations with rational numbers extend the rules for manipulating fractions to complex fractions.

- Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
- 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.**

- 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  $3 \times 10^8$  and the population of the world as  $7 \times 10^9$ , and determine that the world population is more than 20 times larger.*
- 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.*
- 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.
  - 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?*
  - 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.**

- 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.
- 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.
- 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.**

- 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.
- 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.
- 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.**

- 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.
- 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  $\frac{1}{2}$  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	<ul style="list-style-type: none"> <li>Know that there are numbers that are not rational, and approximate them by rational numbers.</li> </ul>	1. Make sense of problems and persevere in solving them.	Mathematical Practices
Expressions and Equations	<ul style="list-style-type: none"> <li>Work with radicals and integer exponents.</li> <li>Understand the connections between proportional relationships, lines, and linear equations.</li> <li>Analyze and solve linear equations and pairs of simultaneous linear equations.</li> </ul>	2. Reason abstractly and quantitatively.	
Functions	<ul style="list-style-type: none"> <li>Define, evaluate, and compare functions.</li> <li>Use functions to model relationships between quantities.</li> </ul>	3. Construct viable arguments and critique the reasoning of others.	
Geometry	<ul style="list-style-type: none"> <li>Understand congruence and similarity using physical models, transparencies, or geometry software.</li> <li>Understand and apply the Pythagorean Theorem.</li> <li>Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.</li> </ul>	4. Model with mathematics.	
Statistics and Probability	<ul style="list-style-type: none"> <li>Investigate patterns of association in bivariate data.</li> </ul>	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.,  $\pi^2$ ). *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.<sup>3</sup>
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.*

---

<sup>3</sup> 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.

## Content Overview

<p>The Real Number System</p> <p>Quantities</p> <p>The Complex Number System</p> <p>Vector and Matrix Quantities</p>	<ul style="list-style-type: none"> <li>• Extend the properties of exponents to rational exponents</li> <li>• Classify numbers as rational or irrational</li> <li>• Reason quantitatively and use units to solve problems</li> <li>• Perform arithmetic operations with complex numbers</li> <li>• Represent complex numbers and their operations on the complex plane</li> <li>• Use complex numbers in polynomial identities and equations</li> <li>• Represent and model with vector quantities</li> <li>• Perform operations on vectors</li> <li>• Perform operations on matrices and use matrices in applications</li> </ul>	<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> <li>8. Look for and express regularity in repeated reasoning.</li> </ol>	<p>Mathematical Practices</p>
--	--	--	-------------------------------

### 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  $120^\circ$ .*
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  $2 \times 2$  matrix as a transformation of the plane, and interpret the absolute value of the determinant in terms of area.

## Mathematics | High School—Algebra

**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.

## Content Overview

<p>Seeing Structure in Expressions</p> <p>Arithmetic with Polynomials and Rational Functions</p> <p>Creating Equations</p> <p>Reasoning with Equations and Inequalities</p>	<ul style="list-style-type: none"> <li>• Interpret the structure of expressions</li> <li>• Write expressions in equivalent forms to solve problems</li> <li>• Perform arithmetic operations on polynomials</li> <li>• Understand the relationship between zeros and factors of polynomials</li> <li>• Use polynomial identities to solve problems</li> <li>• Rewrite and graph rational functions</li> <li>• Create equations that describe numbers or relationships</li> <li>• Understand solving equations as a process of reasoning and explain the reasoning</li> <li>• Solve equations and inequalities in one variable</li> <li>• Solve systems of equations</li> <li>• Represent and solve equations and inequalities graphically</li> </ul>	<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> <li>8. Look for and express regularity in repeated reasoning.</li> </ol>	<p>Mathematical Practices</p>
---	---	--	-------------------------------

### 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

- 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  $p(x)$ .
- 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

- 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.*
- (+) 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

- 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.
- (+) 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

- 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.*
- Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
- 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.*
- 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

- 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.
- 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

- 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.
- Solve quadratic equations in one variable.
  - 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.
  - 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

- 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.
- Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
- 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  $x^2 + y^2 = 3$ .*
- (+) 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  $3 \times 3$  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.

## Content Overview

Interpreting Functions	<ul style="list-style-type: none"> <li>• Understand the concept of a function and use function notation</li> <li>• Interpret functions that arise in applications in terms of the context</li> <li>• Analyze functions using different representations</li> </ul>		<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> <li>8. Look for and express regularity in repeated reasoning.</li> </ol>	Mathematical Practices
Building Functions	<ul style="list-style-type: none"> <li>• Build a function that models a relationship between two quantities</li> <li>• Build new functions from existing functions</li> </ul>			
Linear, Quadratic, and Exponential Models	<ul style="list-style-type: none"> <li>• Construct and compare linear and exponential models and solve problems</li> <li>• Interpret expressions for functions in terms of the situation they model</li> </ul>			
Trigonometric Functions	<ul style="list-style-type: none"> <li>• Extend the domain of trigonometric functions using the unit circle</li> <li>• Model periodic phenomena with trigonometric functions</li> <li>• Prove and apply trigonometric identities</li> </ul>			

### 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  $f(x) + k$ ,  $kf(x)$ ,  $f(kx)$ , 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  $ab^t = d$  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.

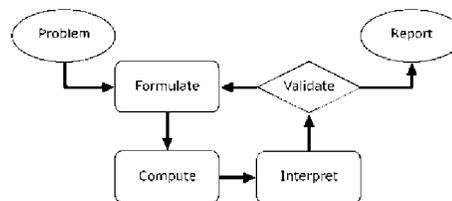
Some examples of such situations might include:

- 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<sub>2</sub> 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

<p>Congruence</p> <p>Similarity, Right Triangles, and Trigonometry</p> <p>Circles</p> <p>Expressing Geometric Properties with Equations</p> <p>Geometric Measurement and Dimension</p> <p>Modeling with Geometry</p>	<ul style="list-style-type: none"> <li>• Experiment with transformations in the plane</li> <li>• Understand congruence in terms of rigid motions</li> <li>• Prove geometric theorems</li> <li>• Make geometric constructions</li> <li>• Understand similarity in terms of similarity transformations</li> <li>• Prove theorems involving similarity</li> <li>• Define trigonometric ratios and solve problems involving right triangles</li> <li>• Apply trigonometry to general triangles</li> <li>• Understand and apply theorems about circles</li> <li>• Find arc lengths and areas of sectors of circles</li> <li>• Translate between the geometric description and the equation for a conic section</li> <li>• Use coordinates to prove simple geometric theorems algebraically</li> <li>• Explain volume formulas and use them to solve problems</li> <li>• Visualize relationships between two-dimensional and three-dimensional objects</li> <li>• Apply geometric concepts in modeling situations</li> </ul>	<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> <li>8. Look for and express regularity in repeated reasoning.</li> </ol>	<p>Mathematical Practices</p>
--	--	--	-------------------------------

### 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

- 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.
- 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.
- 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**

- 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.*
- Prove theorems about triangles. *Theorems include: measures of interior angles of a triangle sum to  $180^\circ$ ; 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.*
- 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**

- 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.*
- 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**

- Verify experimentally the properties of dilations:
  - 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.
  - The dilation of a line segment is longer or shorter in the ratio given by the scale factor.
- 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.
- Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.

**Prove theorems involving similarity**

- 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.*
- 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**

- 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.
- Explain and use the relationship between the sine and cosine of complementary angles.
- Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.\*

**(+) Apply trigonometry to general triangles**

- 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.
- Prove the Laws of Sines and Cosines and use them to solve problems.
- 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**

- Prove that all circles are similar.

- 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.*
- Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.
- (+) Construct a tangent line from a point outside a given circle to the circle.

#### Find arc lengths and areas of sectors of circles

- 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

- 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.
- Derive the equation of a parabola given a focus and directrix.
- (+) 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

- 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  $(0, 2)$ .*
- 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).
- Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
- 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

- 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.*
- (+) Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.
- Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.\*

#### Visualize relationships between two-dimensional and three-dimensional objects

- 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

- Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).\*
- Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).\*
- 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.

## Content Overview

<p>Interpreting Categorical and Quantitative Data</p> <p>Making Inferences and Justifying Conclusions</p> <p>Conditional Probability and the Rules of Probability</p> <p>Using Probability to Make Decisions</p>	<ul style="list-style-type: none"> <li>• Summarize, represent, and interpret data on a single count or measurement variable</li> <li>• Summarize, represent, and interpret data on two categorical and quantitative variables</li> <li>• Interpret linear models</li> <li>• Understand and evaluate random processes underlying statistical experiments</li> <li>• Make inferences and justify conclusions from sample surveys, experiments and observational studies</li> <li>• Use the concepts of independence and conditional probability to interpret data</li> <li>• Use the rules of probability to compute probabilities of compound events in a uniform probability model</li> <li>• Calculate expected values and use them to solve problems</li> <li>• Use probability to evaluate outcomes of decisions</li> </ul>	<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> <li>8. Look for and express regularity in repeated reasoning.</li> </ol>	<p>Mathematical Practices</p>
--	--	--	-------------------------------

### 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  $P(A \text{ and } B)/P(B)$ , 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,  $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$ , and interpret the answer in terms of the model.
8. (+) Apply the general Multiplication Rule in a uniform probability model,  $P(A \text{ and } B) = P(A)P(B|A) = P(B)P(A|B)$ , 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:  $\frac{3}{4}$  and  $-\frac{3}{4}$  are additive inverses of one another because  $\frac{3}{4} + (-\frac{3}{4}) = (-\frac{3}{4}) + \frac{3}{4} = 0$ .

**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.<sup>1</sup>

**Commutative property.** See Table 3 in this Glossary.

**Complex fraction.** A fraction  $\frac{A}{B}$  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.<sup>2</sup> See also *median*, *third quartile*, *interquartile range*.

**Fraction.** A number expressible in the form  $\frac{a}{b}$  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.<sup>3</sup>

**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.<sup>4</sup> 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.

---

<sup>1</sup> Adapted from Wisconsin Department of Public Instruction, <http://dpi.wi.gov/standards/mathglos.html>, accessed March 2, 2010.

<sup>2</sup> 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).

<sup>3</sup> Adapted from Wisconsin Department of Public Instruction, *op. cit.*

<sup>4</sup> 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:  $\frac{3}{4}$  and  $\frac{4}{3}$  are multiplicative inverses of one another because  $\frac{3}{4} \times \frac{4}{3} = \frac{4}{3} \times \frac{3}{4} = 1$ .

**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  $\frac{5}{50} = 10\%$  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 denominator.

**Rational number.** A number expressible in the form  $\frac{a}{b}$  or  $-\frac{a}{b}$  for some fraction  $\frac{a}{b}$ . 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.<sup>5</sup>

**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, ...

---

<sup>5</sup> Adapted from Wisconsin Department of Public Instruction, *op. cit.*

TABLE 1. Common addition and subtraction situations.<sup>6</sup>

	Result Unknown	Change Unknown	Start Unknown
<b>Add to</b>	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? $? + 3 = 5$
<b>Take from</b>	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 <sup>7</sup>
<b>Put Together/ Take Apart<sup>8</sup></b>	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
<b>Compare<sup>9</sup></b>	(“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? $5 - 3 = ?, ? + 3 = 5$

<sup>6</sup> Adapted from Box 2-4 of National Research Council (2009, op. cit., pp. 32, 33).

<sup>7</sup> 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*.

<sup>8</sup> 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.

<sup>9</sup> 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.<sup>10</sup>

	<b>Unknown Product</b>	<b>Group Size Unknown</b> (“How many in each group?” Division)	<b>Number of Groups Unknown</b> (“How many groups?” Division)
	$3 \times 6 = ?$	$3 \times ? = 18$ and $18 \div 3 = ?$	$? \times 6 = 18$ and $18 \div 6 = ?$
<b>Equal Groups</b>	There are 3 bags with 6 plums in each bag. How many plums are there in all? <i>Measurement example.</i> 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? <i>Measurement example.</i> 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? <i>Measurement example.</i> 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?
<b>Arrays,<sup>11</sup> Area<sup>12</sup></b>	There are 3 rows of apples with 6 apples in each row. How many apples are there? <i>Area example.</i> 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? <i>Area example.</i> 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? <i>Area example.</i> A rectangle has area 18 square centimeters. If one side is 6 cm long, how long is a side next to it?
<b>Compare</b>	A blue hat costs \$6. A red hat costs 3 times as much as the blue hat. How much does the red hat cost? <i>Measurement example.</i> 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? <i>Measurement example.</i> 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? <i>Measurement example.</i> 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?
<b>General</b>	$a \times b = ?$	$a \times ? = p$ and $p \div a = ?$	$? \times b = p$ and $p \div b = ?$

<sup>10</sup> The first examples in each cell are examples of discrete things. These are easier for students and should be given before the measurement examples.

<sup>11</sup> 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.

<sup>12</sup> 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.

<i>Associative property of addition</i>	$(a + b) + c = a + (b + c)$
<i>Commutative property of addition</i>	$a + b = b + a$
<i>Additive identity property of 0</i>	$a + 0 = 0 + a = a$
<i>Existence of additive inverses</i>	For every $a$ there exists $-a$ so that $a + (-a) = (-a) + a = 0$ .
<i>Associative property of multiplication</i>	$(a \times b) \times c = a \times (b \times c)$
<i>Commutative property of multiplication</i>	$a \times b = b \times a$
<i>Multiplicative identity property of 1</i>	$a \times 1 = 1 \times a = a$
<i>Existence of multiplicative inverses</i>	For every $a \neq 0$ there exists $1/a$ so that $a \times 1/a = 1/a \times a = 1$ .
<i>Distributive property of multiplication over addition</i>	$a \times (b + c) = a \times b + a \times c$

**TABLE 4.** The properties of equality. Here  $a$ ,  $b$  and  $c$  stand for arbitrary numbers in the rational, real, or complex number systems.

<i>Reflexive property of equality</i>	$a = a$
<i>Symmetric property of equality</i>	If $a = b$ , then $b = a$ .
<i>Transitive property of equality</i>	If $a = b$ and $b = c$ , then $a = c$ .
<i>Addition property of equality</i>	If $a = b$ , then $a + c = b + c$ .
<i>Subtraction property of equality</i>	If $a = b$ , then $a - c = b - c$ .
<i>Multiplication property of equality</i>	If $a = b$ , then $a \times c = b \times c$ .
<i>Division property of equality</i>	If $a = b$ and $c \neq 0$ , then $a \div c = b \div c$ .
<i>Substitution property of equality</i>	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 $a \div c < b \div c$ .

# Sample of Works Consulted

- Existing state standards documents.  
Research summaries and briefs provided to the Working Group by researchers.
- National Assessment Governing Board, *Mathematics Framework for the 2009 National Assessment of Educational Progress*. U.S. Department of Education, 2008.
- NAEP Validity Studies Panel, *Validity Study of the NAEP Mathematics Assessment: Grades 4 and 8*. Daro et al., 2007.
- Mathematics documents from: Alberta, Canada; Belgium; China; Chinese Taipei; Denmark; England; Finland; Hong Kong; India; Ireland; Japan; Korea, New Zealand, Singapore; Victoria (British Columbia).
- Adding it Up: Helping Children Learn Mathematics. National Research Council, Mathematics Learning Study Committee, 2001.
- Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education. National Governors Association, Council of Chief State School Officers, and Achieve, Inc., 2008.
- Crossroads in Mathematics* (1995) and *Beyond Crossroads* (2006). American Mathematical Association of Two-Year Colleges (AMATYC).
- Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics: A Quest for Coherence*. National Council of Teachers of Mathematics, 2006.
- Focus in High School Mathematics: Reasoning and Sense Making*. National Council of Teachers of Mathematics. Reston, VA: NCTM.
- Foundations for Success: The Final Report of the National Mathematics Advisory Panel*. U.S. Department of Education: Washington, DC, 2008.
- Guidelines for Assessment and Instruction in Statistics Education (GAISE) Report: A PreK-12 Curriculum Framework*.
- How People Learn: Brain, Mind, Experience, and School*. Bransford, J.D., Brown, A.L., and Cocking, R.R., eds. Committee on Developments in the Science of Learning, Commission on Behavioral and Social Sciences and Education, National Research Council, 1999.
- Mathematics and Democracy, The Case for Quantitative Literacy*, Steen, L.A. (ed.). National Council on Education and the Disciplines, 2001.
- Mathematics Learning in Early Childhood: Paths Toward Excellence and Equity*. Cross, C.T., Woods, T.A., and Schweingruber, S., eds. Committee on Early Childhood Mathematics, National Research Council, 2009.
- The Opportunity Equation: Transforming Mathematics and Science Education for Citizenship and the Global Economy*. The Carnegie Corporation of New York and the Institute for Advanced Study, 2009. Online: <http://www.opportunityequation.org/>
- Principles and Standards for School Mathematics*. National Council of Teachers of Mathematics, 2000.
- The Proficiency Illusion*. Cronin, J., Dahlin, M., Adkins, D., and Kingsbury, G.G.; foreword by C.E. Finn, Jr., and M. J. Petrilli. Thomas B. Fordham Institute, 2007.
- Ready or Not: Creating a High School Diploma That Counts*. American Diploma Project, 2004.
- A Research Companion to Principles and Standards for School Mathematics*. National Council of Teachers of Mathematics, 2003.
- Sizing Up State Standards 2008*. American Federation of Teachers, 2008.
- A Splintered Vision: An Investigation of U.S. Science and Mathematics Education*. Schmidt, W.H., McKnight, C.C., Raizen, S.A., et al. U.S. National Research Center for the Third International Mathematics and Science Study, Michigan State University, 1997.
- Stars By Which to Navigate? Scanning National and International Education Standards in 2009*. Carmichael, S.B., W.S. Wilson, Finn, Jr., C.E., Winkler, A.M., and Palmieri, S. Thomas B. Fordham Institute, 2009.
- Askey, R., "Knowing and Teaching Elementary Mathematics," *American Educator*, Fall 1999.
- Aydogan, C., Plummer, C., Kang, S. J., Bilbrey, C., Farran, D. C., & Lipsey, M. W. (2005). An investigation of prekindergarten curricula: Influences on classroom characteristics and child engagement. Paper presented at the NAEYC.
- Blum, W., Galbraith, P. L., Henn, H-W. and Niss, M. (Eds) *Applications and Modeling in Mathematics Education*, ICMI Study 14. Amsterdam: Springer.
- Brosterman, N. (1997). *Inventing kindergarten*. New York: Harry N. Abrams.
- Clements, D. H., & Sarama, J. (2009). *Learning and teaching early math: The learning trajectories approach*. New York: Routledge.
- Clements, D. H., Sarama, J., & DiBiase, A.-M. (2004). e. Mahwah, NJ: Lawrence Erlbaum Associates.
- Cobb and Moore, "Mathematics, Statistics, and Teaching," *Amer. Math. Monthly* 104(9), pp. 801-823, 1997.
- Confrey, J., "Tracing the Evolution of Mathematics Content Standards in the United States: Looking Back and Projecting Forward." K12 Mathematics Curriculum Standards conference proceedings, February 5-6, 2007.
- Conley, D.T. *Knowledge and Skills for University Success*, 2008.
- Conley, D.T. *Toward a More Comprehensive Conception of College Readiness*, 2007.
- Cuoco, A., Goldenberg, E. P., and Mark, J., "Habits of Mind: An Organizing Principle for a Mathematics Curriculum," *Journal of Mathematical Behavior*, 15(4), 375-402, 1996.
- Carpenter, T. P., Fennema, E., Franke, M. L., Levi, L., & Empson, S. B. (1999). *Children's Mathematics: Cognitively Guided Instruction*. Portsmouth, NH: Heinemann.
- Van de Walle, J. A., Karp, K., & Bay-Williams, J. M. (2010). *Elementary and Middle School Mathematics: Teaching Developmentally* (Seventh ed.). Boston: Allyn and Bacon.
- Ginsburg, A., Leinwand, S., and Decker, K., "Informing Grades 1-6 Standards Development: What Can Be Learned from High-Performing Hong Kong, Korea, and Singapore?" American Institutes for Research, 2009.
- Ginsburg et al., "What the United States Can Learn From Singapore's World-Class Mathematics System (and what Singapore can learn from the United States)," American Institutes for Research, 2005.
- Ginsburg et al., "Reassessing U.S. International Mathematics Performance: New Findings from the 2003 TIMMS and PISA," American Institutes for Research, 2005.
- Ginsburg, H. P., Lee, J. S., & Stevenson-Boyd, J. (2008). Mathematics education for young children: What it is and how to promote it. *Social Policy Report*, 22(1), 1-24.
- Harel, G., "What is Mathematics? A Pedagogical Answer to a Philosophical Question," in R. B. Gold and R. Simons (Eds.), *Current Issues in the Philosophy of Mathematics from the Perspective of Mathematicians*. Mathematical Association of America, 2008.
- Henry, V. J., & Brown, R. S. (2008). First-grade basic facts: An investigation into teaching and learning of an accelerated, high-demand memorization standard. *Journal for Research in Mathematics Education*, 39, 153-183.
- Howe, R., "From Arithmetic to Algebra." Howe, R., "Starting Off Right in Arithmetic," <http://math.arizona.edu/~ime/2008-09/MIME/BegArith.pdf>.
- Jordan, N. C., Kaplan, D., Ramineni, C., and Locuniak, M. N., "Early math matters: kindergarten number competence and later mathematics outcomes," *Dev. Psychol.* 45, 850-867, 2009.
- Kader, G., "Means and MADS," *Mathematics Teaching in the Middle School*, 4(6), 1999, pp. 398-403.
- Kilpatrick, J., Mesa, V., and Sloane, F., "U.S. Algebra Performance in an International Context," in Loveless (ed.), *Lessons Learned: What International Assessments Tell Us About Math Achievement*. Washington, D.C.: Brookings Institution Press, 2007.
- Leinwand, S., and Ginsburg, A., "Measuring Up: How the Highest Performing state (Massachusetts) Compares to the Highest Performing Country (Hong Kong) in Grade 3 Mathematics," American Institutes for Research, 2009.
- Niss, M., "Quantitative Literacy and Mathematical Competencies," in *Quantitative Literacy: Why Numeracy Matters for Schools and Colleges*, Madison, B. L., and Steen, L.A. (eds.), National Council on Education and the Disciplines. Proceedings of the National Forum on Quantitative Literacy held at the National Academy of Sciences in Washington, D.C., December 1-2, 2001.
- Pratt, C. (1948). *I learn from children*. New York: Simon and Schuster.
- Reys, B. (ed.), *The Intended Mathematics Curriculum as Represented in State-Level Curriculum Standards: Consensus or Confusion?* IAP-Information Age Publishing, 2006.
- Sarama, J., & Clements, D. H. (2009). *Early childhood mathematics education research: Learning trajectories for young children*. New York: Routledge.
- Schmidt, W., Houang, R., and Cogan, L., "A Coherent Curriculum: The Case of Mathematics," *American Educator*, Summer 2002, p. 4.

- Schmidt, W.H. and Houang, R.T., "Lack of Focus in the Intended Mathematics Curriculum: Symptom or Cause?" in Loveless (ed.), *Lessons Learned: What International Assessments Tell Us About Math Achievement*. Washington, D.C.: Brookings Institution Press, 2007.
- Steen, L.A., "Facing Facts: Achieving Balance in High School Mathematics." *Mathematics Teacher*, Vol. 100. Special Issue.
- Wu, H., "Fractions, decimals, and rational numbers," 2007, <http://math.berkeley.edu/~wu/> (March 19, 2008).
- Wu, H., "Lecture Notes for the 2009 Pre-Algebra Institute," September 15, 2009.
- Wu, H., "Preservice professional development of mathematics Teachers," <http://math.berkeley.edu/~wu/pspd2.pdf>.
- Massachusetts Department of Education. Progress Report of the Mathematics Curriculum Framework Revision Panel, Massachusetts Department of Elementary and Secondary Education, 2009. [www.doe.mass.edu/boe/docs/0509/ite\\_m5\\_report.pdf](http://www.doe.mass.edu/boe/docs/0509/ite_m5_report.pdf).
- ACT College Readiness Benchmarks™  
ACT College Readiness Standards™  
ACT National Curriculum Survey™
- Adelman, C. *The Toolbox Revisited: Paths to Degree Completion From High School Through College*, 2006.
- Advanced Placement Calculus, Statistics and Computer Science Course Descriptions. May 2009, May 2010.* College Board, 2008.
- Aligning Postsecondary Expectations and High School Practice: The Gap Defined* (ACT: Policy Implications of the ACT National Curriculum Survey Results 2005-2006).
- Condition of Education, 2004: Indicator 30, Top 30 Postsecondary Courses*, U.S. Department of Education, 2004.
- Condition of Education, 2007: High School Course-Taking*. U.S. Department of Education, 2007.
- Crisis at the Core: Preparing All Students for College and Work*, ACT.
- Achieve, Inc., Florida Postsecondary Survey, 2008.
- Golfin, Peggy, et. al. CNA Corporation. *Strengthening Mathematics at the Postsecondary Level: Literature Review and Analysis*, 2005.
- Camara, W.J., Shaw, E., and Patterson, B. (June 13, 2009). First Year English and Math College Coursework. College Board: New York, NY (Available from authors).
- CLEP Precalculus Curriculum Survey: Summary of Results. The College Board, 2005.
- College Board Standards for College Success: Mathematics and Statistics. College Board, 2006.
- Miller, G.E., Twing, J., and Meyers, J. "Higher Education Readiness Component (HERC) Correlation Study." Austin, TX: Pearson.
- On Course for Success: A Close Look at Selected High School Courses That Prepare All Students for College and Work*, ACT.
- Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up*. Achieve, 2008.
- Ready for College and Ready for Work: Same or Different?* ACT.
- Rigor at Risk: Reaffirming Quality in the High School Core Curriculum, ACT.
- The Forgotten Middle: Ensuring that All Students Are on Target for College and Career Readiness before High School*, ACT.
- Achieve, Inc., Virginia Postsecondary Survey, 2004.
- ACT Job Skill Comparison Charts  
Achieve, Mathematics at Work, 2008.  
*The American Diploma Project Workplace Study*. National Alliance of Business Study, 2002.
- Carnevale, Anthony and Desrochers, Donna. *Connecting Education Standards and Employment: Course-taking Patterns of Young Workers*, 2002.
- Colorado Business Leaders Top Skills, 2006.  
*Hawai'i Career Ready Study: access to living wage careers from high school*, 2007.
- States' Career Cluster Initiative. *Essential Knowledge and Skill Statements*, 2008.
- ACT WorkKeys Occupational Profiles™  
Program for International Student Assessment (PISA), 2006.
- Trends in International Mathematics and Science Study (TIMSS), 2007.
- International Baccalaureate, Mathematics Standard Level, 2006.
- University of Cambridge International Examinations: General Certificate of Secondary Education in Mathematics, 2009.
- EdExcel, General Certificate of Secondary Education, Mathematics, 2009.
- Blachowicz, Camille, and Peter Fisher. "Vocabulary Instruction." In *Handbook of Reading Research*, Volume III, edited by Michael Kamil, Peter Mosenthal, P. David Pearson, and Rebecca Barr, pp. 503-523. Mahwah, NJ: Lawrence Erlbaum Associates, 2000.
- Gándara, Patricia, and Frances Contreras. *The Latino Education Crisis: The Consequences of Failed Social Policies*. Cambridge, Ma: Harvard University Press, 2009.
- Moschkovich, Judit N. "Supporting the Participation of English Language Learners in Mathematical Discussions." *For the Learning of Mathematics* 19 (March 1999): 11-19.
- Moschkovich, J. N. (in press). Language, culture, and equity in secondary mathematics classrooms. To appear in F. Lester & J. Lobato (Ed.), *Teaching and Learning Mathematics: Translating Research to the Secondary Classroom*, Reston, VA: NCTM.
- Moschkovich, Judit N. "Examining Mathematical Discourse Practices," *For the Learning of Mathematics* 27 (March 2007): 24-30.
- Moschkovich, Judit N. "Using Two Languages when Learning Mathematics: How Can Research Help Us Understand Mathematics Learners Who Use Two Languages?" *Research Brief and Clip*, National Council of Teachers of Mathematics, 2009  
[http://www.nctm.org/uploadedFiles/Research\\_News\\_and\\_Advocacy/Research/Clips\\_and\\_Briefs/Research\\_brief\\_12\\_Using\\_2.pdf](http://www.nctm.org/uploadedFiles/Research_News_and_Advocacy/Research/Clips_and_Briefs/Research_brief_12_Using_2.pdf). (accessed November 25, 2009).
- Moschkovich, J.N. (2007) Bilingual Mathematics Learners: How views of language, bilingual learners, and mathematical communication impact instruction. In N. Nasir and P. Cobb (Eds.), *Diversity, Equity, and Access to Mathematical Ideas*. New York: Teachers College Press, 89-104.
- Schleppegrell, M.J. (2007). The linguistic challenges of mathematics teaching and learning: A research review. *Reading & Writing Quarterly*, 23:139-159.
- Individuals with Disabilities Education Act (IDEA), 34 CFR §300.34 (a). (2004).
- Individuals with Disabilities Education Act (IDEA), 34 CFR §300.39 (b)(3). (2004).
- Office of Special Education Programs, U.S. Department of Education. "IDEA Regulations: Identification of Students with Specific Learning Disabilities," 2006.
- Thompson, S. J., Morse, A.B., Sharpe, M., and Hall, S., "Accommodations Manual: How to Select, Administer and Evaluate Use of Accommodations and Assessment for Students with Disabilities," 2nd Edition. Council of Chief State School Officers, 2005.

## **PARTNERSHIP FOR ASSESSMENT OF READINESS FOR COLLEGE AND CAREERS**

### **MEMORANDUM OF UNDERSTANDING**

**Purpose.** This document commits states to participate in the Partnership for Assessment of Readiness for College and Career, a state-led consortium that will collaborate on the development of common, high-quality assessments aligned to the Common Core State Standards (CCSS) in English language arts and mathematics for grades 3-8 and high school. The primary goal of the Partnership's work is to measure and document students' college and career readiness against common academic standards and to measure students' progress toward this target throughout the rest of the system.

While participating in the Partnership demonstrates the state's commitment to pursue a common assessment system that enables comparisons against the CCSS across all Partnership states, it does not commit the state to a specific assessment design at this point. Partnership states are still considering several options for the design of a common assessment system in pursuit of the Race to the Top (RTTT) Comprehensive Assessments Grant and will not be asked to commit to the Partnership's application until a later date. Until that time, all participating states will have the opportunity to contribute to and shape the Partnership's proposal.

**Preliminary Design Principles.** Partnership states have identified the following major purposes and uses for the assessment system. As the Partnership collaborates to develop its application for the RTTT assessment competition, these purposes will guide its work.

- The primary purpose is to measure and document students' **college and career readiness** and to measure students' progress toward this target throughout the rest of the system. Students meeting the college and career readiness standards will be eligible for placement into entry-level credit-bearing, rather than remedial, courses in public 2- and 4-year postsecondary institutions in participating states.
- Additionally, the partnership is committed to ensuring that the assessment results:
  - Are **comparable across states** at the student level;
  - **Meet internationally rigorous benchmarks**;
  - Support valid assessment of **student longitudinal growth**; and
  - Serve as a **signal for good instructional practices**.
- The results must be able to support multiple levels and forms of accountability including:
  - Decisions about **promotion and graduation for individual students**,
  - **Teacher and leader evaluations**, and
  - **School accountability** determinations.

**Roles and Responsibilities of Partnership States.** The Partnership will employ a multi-level governance and management structure designed to guide the partnership through the submission of the proposal.

- The **Governing States** are comprised of a representative group of leaders from Partnership states that are committed to implementing the assessment system developed by the partnership, should it win a grant from the Race to the Top Comprehensive Assessment System competition, and are responsible for guiding the proposal development process. Each Governing State will commit a team comprised of the chief, assessment director, and other key officials from the SEA, Governor's office, and higher education as appropriate.
- The **Proposal Design Team** will include officials from partnership states who will work with an advisory group of national and international experts to create an assessment system design for the Partnership's proposal. The design team will include as many states as are interested in and capable of contributing to and shaping the design of the proposed next generation assessment system.

- **Participating States** will include other partnership states that are unable to provide staff time to the design team but will provide rapid feedback on drafts of the proposal through the development phase.

**State Commitment.** This memorandum of understanding is voluntary and non-binding for states. States signing this MOU should do so with the intent of continuing in the Partnership through the proposal development, assessment development, and implementation phases. However, there will be an opportunity for states re-assess their participation in the Partnership before it submits its application for a Race to the Top Comprehensive Assessment Systems Grant by June 23, 2010.

**Agreement.** The undersigned state leader agrees to the process and structure as described above and attests accordingly by his/her signature below.

Signature(s) for the State of:	
Authorized State Signature: 	
Name: Terry Holliday	Date: May 10, 2010
Title: Commissioner	

# PARTNERSHIP FOR ASSESSMENT OF READINESS FOR COLLEGE AND CAREERS

## PARTICIPATING STATES

MAY 25, 2010

---

1. Alabama
2. Arizona
3. Arkansas
4. California
5. Colorado
6. Delaware
7. District of Columbia
8. Florida
9. Georgia
10. Hawaii
11. Illinois
12. Indiana
13. Kentucky
14. Louisiana
15. Maryland
16. Massachusetts
17. Mississippi
18. New Hampshire
19. New Jersey
20. New York
21. North Dakota
22. Ohio
23. Oklahoma
24. Pennsylvania
25. Rhode Island
26. South Carolina
27. Tennessee

## 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](mailto:Tony.Alpert@ode.state.or.us) , or  
Fax: 503-378-5156

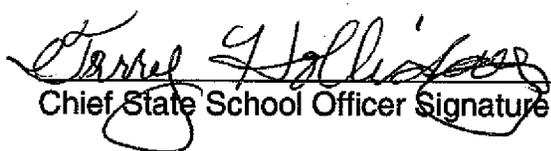
The Document of Commitment may be returned after April 15, allowing a state to begin to participate as a voting Member State from the date of commitment. Signature on this document indicates support of decisions made prior to Consortia receipt of this document.

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: Kentucky**

Please indicate which governance levels are of interest to your state at this time.

- Y Member State** – May also sign as member state for other consortia, may participate in setting general direction, may vote on selected issues.
- N 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.
- Y** Please consider my state for representation on the **steering committee**. (10 hr/wk)
- N** 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)  
\*Kentucky is willing to work where the consortium needs state input.
- 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

  
Chief State School Officer Signature

April 15, 2010  
Date

**States Participating in the SMARTER Balanced Consortium  
(as of 5/12/10)**

<b>State</b>	<b>Date</b>	<b>Member/Governing State</b>
Colorado	May 12	Member
Connecticut	April 13	Member
Delaware	April 14	Member
Georgia	April 28	Member
Hawaii	April 15	Member
Idaho	April 15	Governing
Illinois	April 15	Member
Iowa	April 14	Member
Kansas	April 15	Governing
Kentucky	April 15	Member
Maine	April 14	Governing
Michigan	April 16	Governing
Minnesota	April 27	Governing
Missouri	April 14	Governing
Montana	April 14	Member
Nebraska	April 13	Member
Nevada	April 19	Member
New Hampshire	April 19	Member
New Jersey	April 15	Member
New Mexico	April 13	Member
North Carolina	April 15	Governing
North Dakota	April 15	Member
Ohio	April 20	Member
Oregon	April 15	Governing
Pennsylvania	April 27	Member
South Carolina	April 20	Member
South Dakota	April 15	Member
Utah	April 14	Governing
Vermont	April 15	Governing
Washington	April 14	Governing
West Virginia	April 13	Governing
Wisconsin	April 14	Governing
Wyoming	April 14	Member
<b>Total</b>		<b>Member 33 Governing 13</b>

**FOR IMMEDIATE RELEASE**  
**FEBRUARY 17, 2010**

**Contact: Sara Lense**  
**202.667.0901 x1130, or**  
**Sara.Lense@Widmeyer.com**

**U.S. High Schools in Eight States to Implement World-Class  
Instructional Systems and Examinations**

WASHINGTON, DC — Eight states will join with the National Center on Education and the Economy (NCEE) to use the world’s best instructional systems and examinations to dramatically increase the number of students who leave high school ready to succeed in college. Students who show they are ready to do college level work will be able to get their diploma and enroll in college as early as the end of their sophomore year in high school.

In today’s announcement from Washington, NCEE President Marc Tucker announced that Connecticut, Kentucky, Maine, New Hampshire, New Mexico, Pennsylvania, Rhode Island and Vermont will work with NCEE through a grant from the Bill and Melinda Gates Foundation to improve the performance of high school students in these eight states by adopting powerful instructional systems that actually set the international standards.

“By introducing these Board Examination Systems in pilot high schools in these states as early as the 2011-2012 school year, we will begin a process that will ultimately prepare dramatically more students for college success and greatly reduce the high number of students who now take remedial courses in college,” said Tucker.

NCEE has a long track record of analyzing and benchmarking the highest performing education systems around the world. Over the years, it has found that in countries where the majority of students perform at high levels, two factors stand out. One is that teachers are recruited from the top-third of college students, and the other is that Board Examination Systems are used to drive learning to high levels.

Board Examination Systems currently are in place in Australia, Denmark, England, Finland, France, Ireland, the Netherlands, Scotland, Singapore, parts of Canada and Germany, and other countries and they typically consist of a core program of courses, a well-designed syllabus, instructional materials matched to the syllabus, high-quality exams also matched to the syllabus and professional development for teachers.

NCEE first introduced the Board Examination idea in its groundbreaking report, *Tough Choices or Tough Times*, in late 2006. The report received wide acclaim, and was the cover feature of TIME magazine and praised broadly by educators and the media.

In addition to the eight states being announced today, in 2009, the nation’s largest teachers union, the National Education Association, and two leading business groups, the

U.S. Chamber of Commerce and the National Association of Manufacturers got behind the recommendations made in the *Tough Choices* report.

“The NCEE Board Examination Proposal can be the very foundation of transforming our high schools into successful places for all of our students,” said John Wilson, executive director of the National Education Association. “The National Education Association will support any of our state affiliates who wish to collaborate and partner with their state education agencies in assuring these pilots programs provide all students a pathway to college and a career.”

“Because these programs, the best the world has to offer, are currently available, these states will be able to leap to the front of the pack without having to spend the millions of dollars and years of effort it takes to develop world-class systems from scratch,” noted Tucker. “Once these systems are in place, these states will be able to go a long way toward closing the gap between their performance and the performance of the countries with the most successful education systems.”

Ten to twenty schools in each of the eight states will begin to pilot the system in the 2011-2012 school year. This new effort, laid out today, will be guided by a Governing Board and a Technical Advisory Committee (TAC) and be involved in making decisions including approving the five Board Examination programs identified by NCEE for use in their states’ high schools, ensuring that each of the Board Examination programs meet or exceed the Common Core Standards as they become available, establishing cut-scores for the lower division (grades 9 and 10) exams so that states will know that students meeting those scores are ready to enroll in any open-admissions college in their state without remediation, and approving the method the project will use to create a common reporting scale across the three lower division Board Examination programs. By offering high schools a variety of programs that each cover the core subjects and are set to the level of cognitive demand needed for success in college, high schools will be able to choose those instructional approaches that best suit their students’ needs and faculty’s interests.

“To oversee the technical work and ensure it meets the highest standards of quality, we have pulled together a multidisciplinary Technical Advisory Committee made up of some of the best minds in the country and beyond with a broad range of expertise and experiences,” said Tucker. The TAC will be co-chaired by Howard Everson, professor and senior research fellow at City University of New York, and James Pellegrino, distinguished professor of education and co-director, Learning Sciences Research Institute at the University of Illinois at Chicago. (*NOTE: TAC full membership listed on attachment.*)

“The Board Examination Consortium announced today by the National Center on Education and the Economy represents a bold, imaginative effort to design and implement a large-scale assessment system that will promote student achievement by building upon world-class standards of teaching, learning, and educational measurement. This initiative offers a unique opportunity to think differently about the design of

standardized tests and link curriculum, instruction and assessment in new and innovative ways,” said Dr. Everson.

Board examination systems typically include formative assessments teachers can use to track student progress during the year, and some make it possible to include student work on major assignments in the final course grade, as well as their scores on their final exams. Participating states will approve up to five Board Examination programs for use in their states and invite high schools to pilot one or more of those programs at the 9<sup>th</sup> and 10<sup>th</sup> grade and one or more at the 11<sup>th</sup> and 12<sup>th</sup> grade levels.

The five Board Examination programs already identified by NCEE include ACT’s QualityCore, the Cambridge International Examination’s International General Certificate of Secondary Education (IGCSE) and their AICE program, the College Board’s Advanced Placement program, the International Baccalaureate Diploma program, and Pearson/Edexcel’s IGCSE and A-level programs.

Students from these eight states who volunteer to participate will take the exams at the end of 10<sup>th</sup> grade, and should they pass, be given a high school diploma and opportunity to enroll the next fall as a full-time student at any two-or-four year open admissions post-secondary institution in the state without having to take remedial courses, if they choose to do so.

Today, nearly half of the students in community colleges take one or more remedial courses and many are never able to complete developmental courses and move on to credit-level courses to complete their college degree.

Students who pass these examinations at the end of their sophomore year may also choose to remain in high school and take a program of study designed to prepare them for entrance into a selective college. Any student who does not pass the lower division high school exams on their first try will be offered a customized program designed to help them succeed on their next attempt. The goal of the Board Examination Project is to prepare the vast majority of American high school students for college without first having to take remedial courses.

“NCEE’s program offers the states a way to leap to the best instructional practices in the world; to provide a powerful system of support to struggling students, to our most able students and everyone in between; to motivate our high school students to take tough courses and study hard in school. It can work in urban centers and in rural states like ours. In an age of constrained resources, it offers the states an opportunity to take advantage of enormous investments in time and money made by others, to stand on the shoulders of the countries that have developed the most successful instructional systems in the world,” said Susan Gendron, Maine’s commissioner of education and chair of the Board Examination Project’s Governing Board.

Work is underway to submit a proposal to the U.S. Department of Education for its Race to the Top Assessment Program to support the project's work to bring the world's best assessment systems to U.S. schools.

*For more information and quotes from state leaders, national organizations and TAC members, visit <http://www.skillscommission.org/>.*

*Attachment: TAC Full Membership*

**State Consortium on Board Examination Systems**  
**Member States**  
**Chief Procurement Officers**

**Arizona:**

Jean Clark  
State Procurement Administrator  
State of Arizona  
Department of Administration  
100 N 15th Ave Ste 104  
Phoenix, AZ 85007  
Email: jean.clark@azdoa.gov  
P: (602) 542-9136  
F: (602) 542-5508

**Connecticut:**

Carol Wilson  
Director of Procurement  
State of Connecticut  
Department of Administrative Services  
165 Capitol Ave Fl 5 S  
Hartford, CT 06106  
Email: carol.wilson@ct.gov  
P: (860) 713-5093  
F: (860) 622-2904

**Kentucky:**

Donald Speer  
Executive Director  
Commonwealth of Kentucky  
Finance and Administration Cabinet  
Office of Procurement Services  
702 Capitol Annex Rm 096  
Frankfort, KY 40601  
Email: don.speer@ky.gov  
P: (502) 564-4510

**Maine:**

Betty Lamoreau,  
Director  
State of Maine  
Division of Purchases  
9 State House Station  
111 Sewall St, Fl 4  
Augusta, ME 04333  
Email: Betty.M.Lamoreau@maine.gov  
P: (207) 624-7331  
F: (207) 624-5086

**New Hampshire:**

Robert Stowell  
Administrator  
State of New Hampshire  
Bureau of Purchase and Property  
State House Annex Rm 102  
25 Capitol St  
Concord, NH 03301  
Email: robert.stowell@nh.gov  
P: (603) 271-3606  
F: (603) 271-2700

**New Mexico:**

Mike Vinyard  
State Purchasing Agent  
State of New Mexico  
Purchasing Division  
1100 St Francis Dr Room 2016  
Santa Fe, NM 87505  
Email: mike.vinyard@state.nm.us  
P: (505) 827-0472  
F: (505) 827-2484

**Pennsylvania:**

Jeff Mandel  
Chief Procurement Officer  
Commonwealth of Pennsylvania  
Department of General Services  
Bureau of Procurement  
555 Walnut St Fl 6  
Harrisburg, PA 17101  
Email: jmandel@state.pa.us  
P: (717) 787-5862  
F: (717) 214-9505

**Rhode Island:**

Louis DeQuattro  
Associate Director  
State of Rhode Island  
Department of Administration  
Corporate Legal Services and Division of  
Purchases  
One Capitol Hill  
Providence, RI 02908  
Email: ldequattro@admin.ri.gov

**State Consortium on Board Examination Systems  
Member States  
Chief Procurement Officers**

P: (401) 222-8347

F: (401) 222-8387

**Vermont:**

Deb Damore

Chief Procurement Officer

State of Vermont

Office of Purchasing & Contracting

10 Baldwin St

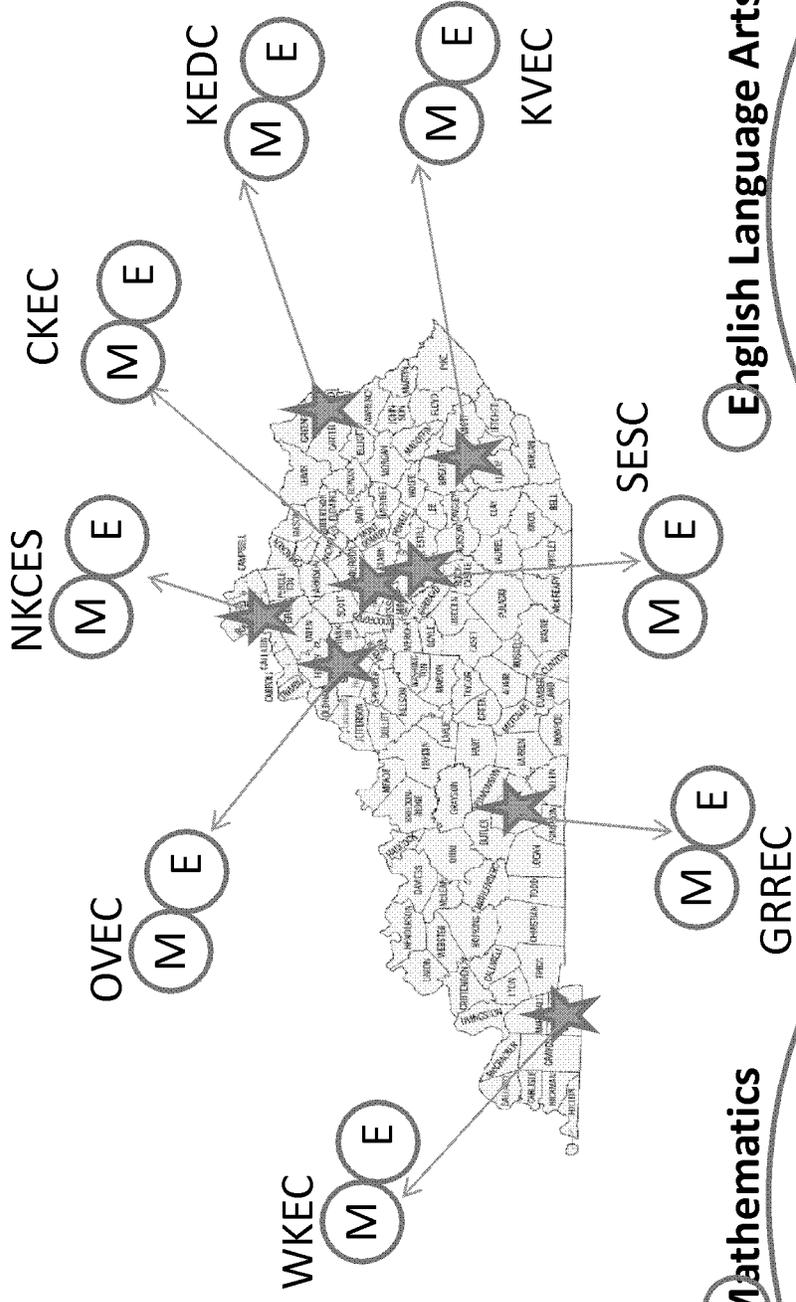
Montpelier, VT 05633

Email: [deborah.damore@state.vt.us](mailto:deborah.damore@state.vt.us)

P: (802) 828-5784

F: (802) 828-2222

# Kentucky Regional Content Leadership Networks



## Mathematics

**FACILITATORS (4):**  
 KDE Staff (Content Specialists)  
 Education Cooperative Consultant  
 Higher Education Faculty

**PARTICIPANTS -75 (25 district teams)**

### NETWORK GOAL:

Ensure that every participant has a clear understanding of how to translate Kentucky's Core Academic Standards into clear learning targets in order to design high quality formative and summative assessments and to plan/select rigorous and congruent learning experiences. *The network approach is designed to build knowledge and leadership capacity within the district. Districts should utilize the membership of the networks to scale up pd at the local level.*

## English Language Arts

**FACILITATORS (4):**  
 KDE Staff (Content Specialists)  
 Education Cooperative Consultant  
 Higher Education Faculty

**PARTICIPANTS -75 (25 district teams)**

### NETWORK GOAL:

Ensure that every participant has a clear understanding of how to translate Kentucky's Core Academic Standards into clear learning targets in order to design high quality formative and summative assessments and to plan/select rigorous and congruent learning experiences. *The network approach is designed to build knowledge and leadership capacity within the district. Districts should utilize the membership of the networks to scale up pd at the local level.*

<b>Charter School Autonomy</b>	<b>SBDM Attributes (per KRS 160.345)</b>
Finance	<p>Section 2(f) After receiving notification of the funds available for the school from the local board, the school council shall determine, within the parameters of the total available funds, the number of persons to be employed in each job classification at the school.</p> <p>Section 2(g) The school council shall determine which textbooks, instructional materials, and student support services shall be provided in the school. Subject to available resources, the local board shall allocate an appropriation to each school that is adequate to meet the school's needs related to instructional materials and school-based student support services, as determined by the school council. The school council shall consult with the school media librarian on the maintenance of the school library media center, including the purchase of instructional materials, information technology, and equipment;</p> <p>Section 8. The Kentucky Board of Education, upon recommendation of the commissioner of education, shall adopt by administrative regulation a formula by which school district funds shall be allocated to each school council. Included in the school council formula shall be an allocation for professional development that is at least sixty-five percent (65%) of the district's per pupil state allocation for professional development for each student in average daily attendance in the school. The school council shall plan professional development in compliance with requirements specified in KRS 156.095, except as provided in KRS 158.649. School councils of small schools shall be encouraged to work with other school councils to maximize professional development opportunities.</p>
Personnel	Section 2(h) Personnel decisions at the school

	<p>level shall be as follows:</p> <ol style="list-style-type: none"> <li>1. From a list of applicants submitted by the local superintendent, the principal at the participating school shall select personnel to fill vacancies, after consultation with the school council, consistent with subsection (2)(i)10. of this section. The superintendent may forward to the school council the names of qualified applicants who have pending certification from the Education Professional Standards Board based on recent completion of preparation requirements, out-of-state preparation, or alternative routes to certification pursuant to KRS 161.028 and 161.048. Requests for transfer shall conform to any employer-employee bargained contract which is in effect.</li> <li>2. If the vacancy to be filled is the position of principal, the school council shall select the new principal from among those persons recommended by the local superintendent, except as provided in subparagraph 4. of this paragraph. The superintendent shall provide additional applicants upon request when qualified applicants are available. The school council shall receive training in recruitment and interviewing techniques prior to carrying out the process of selecting a principal. The council shall select the trainer to deliver the training.</li> <li>3. Personnel decisions made at the school level under the authority of subparagraphs 1., 2., and 4. of this paragraph shall be binding on the superintendent who completes the hiring process.</li> </ol>
Scheduling	<p>Section 2(i) The school council shall adopt a policy to be implemented by the principal in the following additional areas:</p> <ol style="list-style-type: none"> <li>2. Assignment of all instructional and noninstructional staff time;</li> <li>3. Assignment of students to classes and programs within the school;</li> <li>4. Determination of the schedule of the school day and week, subject to the beginning and ending times of the school day and school calendar year as established by the local board;</li> <li>5. Determination of use of school space during the school day;</li> </ol>

Curriculum and Instruction	<p>The school council shall adopt a policy to be implemented by the principal in the following additional areas:</p> <ol style="list-style-type: none"> <li>1. Determination of curriculum, including needs assessment, curriculum development and responsibilities under KRS 158.6453(7);</li> <li>6. Planning and resolution of issues regarding instructional practices;</li> <li>7. Selection and implementation of discipline and classroom management techniques as a part of a comprehensive school safety plan, including responsibilities of the student, parent, teacher, counselor, and principal;</li> <li>8. Selection of extracurricular programs and determination of policies relating to student participation based on academic qualifications and attendance requirements, program evaluation, and supervision;</li> </ol>
Accountability	<p>Section 10. Notwithstanding subsections (1) to (9) of this section, a school's right to establish or maintain a school-based decision making council and the powers, duties, and authority granted to a school council may be rescinded or the school council's role may be advisory if the commissioner of education or the Kentucky Board of Education takes action under KRS 160.346.</p>

# **KENTUCKY DEPARTMENT OF EDUCATION**

## **STAFF NOTE**

### **Action/Discussion Item:**

Partnership for 21<sup>st</sup> Century Skills

### **Applicable Statute or Regulation:**

KRS 158.645, KRS 158.6451

### **Action Question:**

Should the board approve Kentucky becoming a participating state partner in the Partnership for 21<sup>st</sup> Century Skills?

### **History/Background:**

*Existing Policy.* Current Kentucky law states that our system of public instruction will assist students to acquire, among others, the capacities to communicate in a complex and changing civilization, to make economic, social and political choices, to choose and pursue their life's work intelligently, to compete favorably with students in other states, to think and solve problems in school situations and in a variety of situations they will encounter in life, and to build on past learning experiences to acquire new information through various media sources.

Ken Kay, President of the Executive Committee of the Partnership for 21<sup>st</sup> Century Skills will address the board at its April 13 meeting. The Partnership is a non-profit advocacy organization focused on infusing 21<sup>st</sup> century skills into education. The Partnership believes that "twenty-first century learners need to become critical thinkers, problem solvers, effective communicators and collaborators, creators and innovators. Additionally, they need to learn to be self-directed and motivated individuals, capable of learning on their own once they leave school. Twenty-first century learners must also be able to acquire new literacies, such as health, financial and media literacy, and develop global awareness."

The Partnership includes business and education leaders and policymakers. In 2005, the Partnership launched the State Leadership Initiative to help states enact twenty-first century skills as part of their standards, curricula and teaching practice. Fourteen states now participate in the Initiative. State partner responsibilities are:

- High-profile leadership;
- Vision of 21<sup>st</sup> century readiness;
- Ongoing professional development;
- Standards and curriculum aligned with 21<sup>st</sup> century readiness;
- 21<sup>st</sup> century assessments;
- An effective communications strategy;
- An aggressive implementation strategy.

Each state implements its plan uniquely. Some start in high school and some in elementary; some have a P-16 strategy. The Partnership provides the state partners with advice, resources and policy support, but there is no exchange of funds. The organization's goal is to help the states achieve their goals, and to prepare students for the workforce of the future.

**Staff Recommendation and Rationale:**

Staff recommends that the board approve Kentucky becoming a participating partner in the Partnership for 21<sup>st</sup> Century Skills. Having adopted the Common Core academic standards in math and language arts, Kentucky is now ready to proceed with defining college and career readiness in other subjects, and to add up to 15% more Kentucky-specific content to the math and language arts standards. We should consider collaborating with the other states and business partners in the Partnership for 21<sup>st</sup> Century Skills to incorporate these readiness skills into our core academic standards.

**Impact on Getting to Proficiency:**

Working together with other states to develop standards, curricula and assessments that include the 21<sup>st</sup> century skills that the Kentucky General Assembly intends for Kentucky students to acquire will ensure that our students are competitive and prepared for the challenges of future life and work.

**Groups Consulted and Brief Summary of Responses:**

The Partnership's presentation to the Governor's Transforming Education in Kentucky (TEK) Task Force was positively received. The Task Force will make recommendations to the Governor and General Assembly for future education policy.

**Contact Person:**

Ruth Webb, Deputy Commissioner  
Bureau of Support Services  
502-564-3141  
[Ruth.webb@education.ky.gov](mailto:Ruth.webb@education.ky.gov)

Felicia Smith, Associate Commissioner  
Office of Teaching and Learning  
502-564-9850  
[Felicia.smith@education.ky.gov](mailto:Felicia.smith@education.ky.gov)

---

**Deputy Commissioner**

---

**Commissioner of Education**

**Date:**

April 2010

AN ACT relating to alternative certification for Teach for America participants.

***Be it enacted by the General Assembly of the Commonwealth of Kentucky:***

➔ Section 1. KRS 161.048 is amended to read as follows:

(1) The General Assembly hereby finds that:

- (a)
  1. There are persons who have distinguished themselves through a variety of work and educational experiences that could enrich teaching in Kentucky schools;
  2. There are distinguished scholars who wish to become teachers in Kentucky's public schools, but who did not pursue a teacher preparation program;
  3. There are persons who should be recruited to teach in Kentucky's public schools as they have academic majors, strong verbal skills as shown by a verbal ability test, and deep knowledge of content, characteristics that empirical research identifies as important attributes of quality teachers;
  4. There are persons who need to be recruited to teach in Kentucky schools to meet the diverse cultural and educational needs of students; and
  5. There should be alternative procedures to the traditional teacher preparation programs that qualify persons as teachers.
- (b) There are hereby established alternative certification program options as described in subsections (2) ***to (9)***~~through (8)~~ of this section.
- (c) It is the intent of the General Assembly that the Educational Professional Standards Board inform scholars, persons with exceptional work experience, and persons with diverse backgrounds who have potential as teachers of these options and assist local boards of education in implementing these options and recruitment of individuals who can enhance the education system in Kentucky.
- (d) The Education Professional Standards Board shall promulgate administrative

regulations establishing standards and procedures for the alternative certification options described in this section.

(2) Option 1: Certification of a person with exceptional work experience. An individual who has exceptional work experience and has been offered employment in a local school district shall receive a one (1) year provisional teaching certificate with approval by the Education Professional Standards Board of a joint application by the individual and the employing school district under the following conditions:

- (a) The application contains documentation of all education and work experience;
- (b) The candidate has documented ten (10) years of exceptional work experience in the area in which certification is being sought;
- (c) The candidate possesses:
  - 1. a. A minimum of a bachelor's degree, with a cumulative grade point average of two and five-tenths (2.5) on a four (4) point scale or a grade point average of three (3.0) on a four (4) point scale on the last sixty (60) hours of credit completed, including undergraduate and graduate coursework from a nationally or regionally accredited postsecondary institution; or
  - b. A graduate degree with a cumulative grade point average of two and five-tenths (2.5) on a four (4) point scale or a grade point average of three (3.0) on a four (4) point scale on the last sixty (60) hours of credit completed, including undergraduate and graduate coursework from a nationally or regionally accredited postsecondary institution; and
- 2. An academic major or a passing score on the academic content assessment designated by the Education Professional Standards Board; and
- (d) The candidate shall participate in the teacher internship program under

subsections (5), (6), (7), and (8) of KRS 161.030. After successful completion of the internship, the candidate shall receive a regular professional certificate and shall be subject to certificate renewal requirements the same as any other teacher with a regular professional certificate.

(3) Option 2: Certification through a local district training program. A local district or group of districts may seek approval for a training program. The state-approved local district training program is an alternative to the college teacher preparation program as a means of acquiring teacher certification for a teacher at any grade level. The training program may be offered for all teaching certificates approved by Education Professional Standards Board, including interdisciplinary early childhood education, except for specific certificates for teachers of exceptional children. To participate in a state-approved local district alternative training program, the candidate shall:

- (a) Possess a bachelor's degree with a grade point average of two and five tenths (2.5) on a four (4) point scale or, upon approval by the Education Professional Standards Board, at least a grade point average of two (2) on a four (4) point scale if the candidate has exceptional life experience related to teaching and has completed the bachelor's degree at least five (5) years prior to submitting an application to the program.
- (b) Pass written tests designated by the Education Professional Standards Board for content knowledge in the specific teaching field of the applicant with minimum scores in each test as set by the Education Professional Standards Board. To be eligible to take a subject field test, the applicant shall have completed a thirty (30) hour major in the academic content area or five (5) years of experience in the academic content area as approved by the Education Professional Standards Board.
- (c) Have been offered employment in a school district which has a training

program approved by the Education Professional Standards Board.

- (d) Upon meeting the participation requirements as established in this subsection, the candidate shall be issued a one (1) year provisional certificate by the Education Professional Standards Board. The regular provisional certificate shall be issued upon satisfactory completion of the program and the teacher testing internship program pursuant to KRS 161.030.
  - (e) The Education Professional Standards Board may reject the application of any candidate who is judged as not meeting academic requirements comparable to those for students enrolled in Kentucky teacher preparation programs.
- (4) Option 3: Certification of a professional from a postsecondary institution: A candidate who possesses the following qualifications may receive alternative certification for teaching at any level:
- (a) A master's degree or doctoral degree in the academic content area for which certification is sought;
  - (b) A minimum of five (5) years of full-time teaching experience, or its equivalent, in the academic content area for which certification is sought in a regionally or nationally accredited institution of higher education; and
  - (c) Successful completion of the teacher internship requirement imposed under KRS 161.030.
- (5) Option 4: Certification of an adjunct instructor. A person who has expertise in areas such as art, music, foreign language, drama, science, and other specialty areas may be employed as an adjunct instructor in a part-time position by a local board of education under KRS 161.046. An individual certified as an adjunct instructor shall not be deemed "highly qualified" under the provisions of the federal No Child Left Behind Act of 2001, 20 U.S.C. secs. 6301 et seq.
- (6) Option 5: Certification of a veteran of the Armed Forces. The Education Professional Standards Board shall issue a statement of eligibility, valid for five (5)

years, to a veteran for teaching at the elementary, secondary, and secondary vocational education levels with the following qualifications:

- (a) 1. Discharged or released from active duty under honorable conditions after six (6) or more years of continuous active duty immediately before the discharge or release; or
- 2. Completed a total of at least ten (10) years of active duty service, ten (10) years of service officially credited toward armed services retirement, or ten (10) years' combination of such service;
- (b) At least a bachelor's degree in the content area or closely related area for which certification is sought, issued by a regionally or nationally accredited institution of higher education;
- (c) A grade point average of two and five-tenths (2.5) on a four (4) point scale for a bachelor's degree or an advanced degree; and
- (d) A passing score on the written exit assessment examination designated by the Education Professional Standards Board for content knowledge.

Upon an offer of employment by a school district, the eligible veteran shall receive a one (1) year provisional teaching certificate with approval by the Education Professional Standards Board of a joint application by the veteran and the employing school district. During this year, the veteran shall participate in the teacher internship program under subsections (5), (6), (7), and (8) of KRS 161.030. Upon successful completion of the internship program, the veteran shall receive a regular professional certificate.

- (7) Option 6: University alternative program. With approval of the Education Professional Standards Board, a university may provide an alternative program that enrolls students in a postbaccalaureate teacher preparation program concurrently with employment as a teacher in a local school district. A student in the alternative program shall be granted a temporary provisional certificate and shall be a candidate

in the Kentucky teacher internship program, notwithstanding provisions of KRS 161.030. A student may not participate in the internship program until the student has successfully completed the assessments required by the board. The temporary provisional certificate shall be valid for a maximum of one (1) year, and may be renewed two (2) additional years, and shall be contingent upon the candidate's continued enrollment in the preparation program and compliance with all requirements established by the board. A professional certificate shall be issued upon the teacher candidate's successful completion of the program, the internship requirements, and all assessments required by the board.

(8) Option 7: Certification of a person in a field other than education to teach in elementary, middle, or secondary programs. This option shall not be limited to teaching in shortage areas.

(a) An individual certified under provisions of this subsection shall be issued a one (1) year temporary provisional teaching certificate, renewable for a maximum of two (2) additional years with approval of the Education Professional Standards Board provided that the candidate:

1. Possesses a bachelor's degree with a declared academic major in the area in which certification is sought and a cumulative grade point average of 3.0 on a 4.0 scale, or a professional or graduate degree in a field related to the area in which certification is sought;
2. Has a minimum score of five hundred (500) on the verbal section and a minimum score of four (4) on the analytical writing section of the Graduate Record Examination (GRE). In addition, teachers of mathematics and physical and biological sciences shall have a minimum score of four hundred fifty (450) on the quantitative section of the GRE. A candidate who has a professional degree shall be exempt from the requirements of this subparagraph; and

3. Passes written tests designated by the Education Professional Standards Board for content knowledge in the specific teaching field of the applicant with minimum scores in each test as set by the board.
- (b) Prior to receiving the temporary provisional certificate or during the first year of the certificate, the teacher shall complete the following:
1. For elementary teaching, the individual shall successfully complete the equivalent of a two hundred forty (240) hour institute, based on six (6) hour days for eight (8) weeks. The providers and the content of the institute shall be approved by the Education Professional Standards Board. The content shall include research-based teaching strategies in reading and math, research on child and adolescent growth, knowledge of individual differences, including teaching exceptional children, and methods of classroom management.
  2. For middle and secondary teaching, the individual shall successfully complete the equivalent of a one hundred eighty (180) hour institute, based on six (6) hour days for six (6) weeks. The providers and the content of the institute shall be approved by the Education Professional Standards Board and shall include research-based teaching strategies, research on child and adolescent growth, knowledge of individual differences, including teaching exceptional children, and methods of classroom management.
- (c) The candidate shall participate in the teacher internship program under subsections (5), (6), (7), and (8) of KRS 161.030. After successful completion of the internship program, the candidate shall receive a regular professional certificate.
- (9) **Option 8. Certification of a Teach for America participant to teach in elementary, middle, or high schools. Nothing in this subsection shall conflict with**

the participation criteria of the Teach for America program.

(a) An individual certified under this subsection shall be issued a one (1) year temporary provisional teaching certificate if the candidate:

1. Has an offer of employment from a local school district;
2. Possesses a bachelor's degree;
3. Successfully completes the summer training institute and ongoing professional development required by Teach for America, including instruction in goal-oriented, standards-based instruction, diagnosing and assessing students, lesson planning and instructional delivery, classroom management, maximizing learning for diverse students, and teaching methodologies; and
4. Successfully passes written tests designated by the Education Professional Standards Board for content knowledge in the specific teaching field of the candidate with minimum scores in each test as set by the board.

(b) The temporary provisional certificate granted under paragraph (a) of this subsection may be renewed two (2) times with a recommendation of the superintendent and approval of the Education Professional Standards Board.

(c) A Teach for America participant who is approved for a second renewal of his or her temporary provisional certificate under paragraph (b) of this subsection may participate in the internship program under KRS 161.030.

(d) A Teach for America participant shall be issued a professional certificate upon the participant's successful completion of the internship program and assessments relating to teaching of subject matter required by the Education Professional Standards Board under KRS 161.030.

(e) Notwithstanding any statute or administrative regulation to the contrary, a

*teacher certified under this subsection shall have ten (10) years from the date that the teacher successfully completed the internship program to complete a master's degree or fifth year program, or the equivalent as specified by the Education Professional Standards Board in administrative regulation.*

*(f) Alternative certification under this subsection shall be considered a pilot program and shall be an option from the effective date of this Act until the federal Race to the Top funding program under Sections 14005 and 14006 of the American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, is completed, except that the Education Professional Standards Board may promulgate administrative regulations in accordance with KRS Chapter 13A to make this a permanent option.*

*(10)* A public school teacher certified under subsections (2) to ~~*(9)*~~~~*(8)*~~ of this section shall be placed on the local district salary schedule for the rank corresponding to the degree held by the teacher.

~~*(11)*~~~~*(10)*~~ Veterans who were discharged or released from active duty under honorable conditions after six (6) or more years of continuous active duty immediately before the discharge or release, and who have at least four (4) years of occupational experience in the area in which they seek certification as a vocational industrial education teacher, shall apply for certification under and meet the requirements of the administrative regulations promulgated by the Education Professional Standards Board.

~~*(12)*~~~~*(11)*~~ Subsections (1) to (3) of this section notwithstanding, a candidate who possesses the following qualifications may receive certification for teaching programs for exceptional students:

- (a) An out-of-state license to teach exceptional students;
- (b) A bachelor's or master's degree in the certification area or closely related area

for which certification is sought; and

- (c) Successful completion of the teacher internship requirement required under KRS 161.030.

~~(13)~~~~(12)~~ A teacher who is fully certified in Kentucky and who is seeking an additional certification is not required to repeat the Kentucky teacher internship program.

~~(14)~~~~(13)~~ Under KRS 161.030(5), a candidate for alternative certification may serve his or her internship in a nonpublic school.

AN ACT relating to education assessment and declaring an emergency.

***Be it enacted by the General Assembly of the Commonwealth of Kentucky:***

➔ Section 1. KRS 158.6451 is amended to read as follows:

- (1) The General Assembly finds, declares, and establishes that:
  - (a) Schools shall expect a high level of achievement of all students.
  - (b) Schools shall develop their students' ability to:
    1. Use basic communication and mathematics skills for purposes and situations they will encounter throughout their lives;
    2. Apply core concepts and principles from mathematics, the sciences, the arts, the humanities, social studies, and practical living studies to situations they will encounter throughout their lives;
    3. Become self-sufficient individuals of good character exhibiting the qualities of altruism, citizenship, courtesy, ***hard work***, honesty, human worth, justice, knowledge, ***patriotism***, respect, responsibility, and self-discipline;
    4. Become responsible members of a family, work group, or community, including demonstrating effectiveness in community service;
    5. Think and solve problems in school situations and in a variety of situations they will encounter in life;~~and~~
    6. Connect and integrate experiences and new knowledge from all subject matter fields with what they have previously learned and build on past learning experiences to acquire new information through various media sources; ***and***
    - 7. Express their creative talents and interests in visual arts, music, dance and dramatic arts.***
  - (c) Schools shall increase their students' rate of school attendance.
  - (d) Schools shall ***increase their students' graduation rates and*** reduce their

students' dropout and retention rates.

- (e) Schools shall reduce physical and mental health barriers to learning.
  - (f) Schools shall be measured on the proportion of students who make a successful transition to work, post-secondary education, and the military.
- (2) The Kentucky Board of Education shall disseminate to local school districts and schools a model curriculum framework which is directly tied to the goals, outcomes, and assessment strategies developed pursuant to this section and KRS 158.645 and 158.6453. The framework shall provide direction to local districts and schools as they develop their curriculum. The framework shall identify teaching and assessment strategies, instructional material resources, ideas on how to incorporate the resources of the community, a directory of model teaching sites, alternative ways of using school time, and strategies to incorporate character education throughout the curriculum.

→ Section 2. KRS 158.6453 is amended to read as follows:

(1) **As used in this section:**

- (a) **"Accelerated learning" means an organized way of helping students meet individual academic goals by providing direct instruction to eliminate student performance deficiencies or enable students to move more quickly through course requirements and pursue higher level skill development;**
- (b) **"Constructed response or performance based items" means individual test items that require the student to create an answer rather than select a response and may include fill-in the blank, short answer, extended answer, open response, and writing on demand formats;**
- (c) **"Criterion-referenced test" means a test that is aligned with defined academic content standards and measures an individual student's level of performance against the standards;**
- (d) **"End-of-course examination" means the same as defined in KRS 158.860;**

- (e) "Formative assessment" means a process used by teachers and students during instruction to adjust ongoing teaching and learning to improve students' achievement of intended instructional outcomes. Formative assessments may include the use of commercial assessments, classroom observations, teacher-designed classroom tests and assessments, and other processes and assignments to gain information about individual student learning;
- (f) "Interim assessments" means assessments that are given periodically throughout the year to provide diagnostic information and to show individual student performance against content standards;
- (g) "National norm-referenced test" means a type of test interpretation in which the performance of student scores are reported by comparing performance to how other students in a national sample performed;
- (h) "Program audit" means a form of program review that is a systematic method of analyzing components of an instructional program and areas for improvement that is conducted as a result of a program review that indicates a more in-depth process of analysis and assistance is needed;
- (i) "Program review" means a systematic method of analyzing components of an instructional program including instructional practices, aligned and enacted curriculum, student work samples, formative and summative assessments, professional development and support services, and administrative support and monitoring;
- (j) "Summative assessment" means an assessment given at the end of the school year, semester, or other period of time to evaluate students' performance against content standards within a unit of instruction or a course; and
- (k) "Writing" means a purposeful act of thinking and expression that uses

language to explore ideas and communicate meaning to others. Writing is a complex, multifaceted act of communication.

(2) (a) Within thirty (30) days of the effective date of this Act, the Kentucky Department of Education in collaboration with the Council on Postsecondary Education shall plan and implement a comprehensive process for revising the academic content standards in reading, language arts including writing, mathematics, science, social studies, arts and humanities, and practical living skills and career studies. The revision process shall include a graduated time table to ensure that all revisions are completed to allow as much time as possible for teachers to adjust their instruction before new assessments are administered.

(b) The revisions to the content standards shall:

1. Focus on critical knowledge, skills, and capacities needed for success in the global economy;
2. Result in fewer, but more in-depth standards to facilitate mastery learning;
3. Communicate expectations more clearly and concisely to teachers, parents, students, and citizens;
4. Be based on evidence-based research;
5. Consider international benchmarks; and
6. Ensure that the standards are aligned from elementary to high school to postsecondary education so that students can be successful at each education level.

(c) The revision process, jointly organized by the commissioner of education and the president of the Council on Postsecondary Education, shall engage practicing teachers from elementary and secondary education in discussions and negotiations with content faculty and staff from

postsecondary education institutions. The process shall also include business and industry professionals who are actively engaged in career fields that depend on the various content areas, and others as deemed appropriate by the commissioner and the president.

(d) During the revision process the department shall consider standards that have been adopted by national content advisory groups and professional education consortia.

(e) Using a variety of strategies and technologies, the proposed revisions to the academic content standards shall be widely disseminated throughout the state to elementary, secondary, and postsecondary education faculty and administrators, parents, citizens, private professionals in the content areas, and others for comment and recommendations. The results of the revision process shall ensure that the specifications in paragraph (b) of this subsection are met.

(f) The commissioner of education and the president of the Council on Postsecondary Education shall ensure that the revised academic standards that are recommended to the Kentucky Board of Education for approval are aligned with postsecondary education course and assessment standards for the gateway areas of reading and mathematics. The council shall also review the proposed academic standards in all other content areas and provide written recommendations as needed to ensure those areas are aligned with postsecondary education requirements.

(g) 1. The Kentucky Board of Education shall consider for approval the revisions to academic content standards for a content area as they are completed.

2. The Department of Education shall disseminate the academic content standards to the schools and teacher preparation programs no later

than thirty (30) days after approval by the state board.

3. All academic content standards revisions shall be completed and approved by the state board no later than December 15, 2010, and disseminated by the Department of Education to elementary and secondary schools, postsecondary education faculty in the respective content areas, and to all teacher preparation programs no later than January 15, 2011.

(h) The Department of Education shall provide or facilitate statewide training sessions for existing teachers and administrators on how to:

1. Integrate the revised content standards into classroom instruction;
2. Better integrate performance assessment of students within their instructional practices; and
3. Help all students use higher-order thinking and communication skills.

(i) The Education Professional Standards Board in cooperation with the Kentucky Board of Education and the Council on Postsecondary Education shall coordinate information and training sessions for faculty and staff in all of the teacher preparation programs in the use of the revised academic content standards. The Education Professional Standards Board shall ensure that each teacher preparation program includes use of the academic standards in the pre-service education programs and that all teacher interns after the effective date of this Act will have experience planning classroom instruction based on the revised standards.

(j) The Council on Postsecondary Education in cooperation with the Kentucky Department of Education and the postsecondary education institutions in the state shall coordinate information sessions regarding the academic content standards for faculty who teach in the various content areas.

(3) (a) The Kentucky Board of Education shall be responsible for creating and

implementing a balanced statewide assessment program that measures the students', schools', and districts'~~[to be known as the Commonwealth Accountability Testing System to ensure school accountability for student]~~ achievement of the goals set forth in KRS 158.645 and 158.6451, to ensure compliance with the federal No Child Left Behind Act of 2001, 20 U.S.C. secs. 6301 et seq., or its successor, and to ensure school accountability.

(b) Using the revised academic standards developed pursuant to subsection (2) of this section, the board shall revise the annual statewide assessment program for implementation in the 2011-2012 academic year.

(c) The board shall seek the advice of the Office of Education Accountability; the School Curriculum, Assessment, and Accountability Council; the Education Assessment and Accountability Review Subcommittee, and the National Technical Advisory Panel on Assessment and Accountability in the development of the assessment program. The statewide assessment program shall not include measurement of a student's ability to become a self-sufficient individual or to become a responsible member of a family, work group, or community.

(4) (a) The assessment program to be implemented in the 2011-2012 academic year shall be composed of annual student assessments and state and local program reviews and audits in selected content areas.

(b) The state student assessments may include formative and summative tests that:

1. Measure individual student achievement in the academic core content areas of language, reading, English, mathematics, science, and social studies at designated grades;

2. Provide teachers and parents a valid and reliable comprehensive analysis of skills mastered by individual students;

3. Provide diagnostic information that identifies strengths and academic deficiencies of individual students in the content areas;
  4. Provide comparisons with national norms for mathematics, reading, social studies, and science, and where available, comparisons to other states;
  5. Provide information to teachers that can enable them to improve instruction for current and future students;
  6. Provide longitudinal profiles for students; and
  7. Ensure school and district accountability for student achievement of the goals set forth in KRS 158.645 and 158.6451, except the statewide assessment program shall not include measurement of a student's ability to become a self-sufficient individual or to become a responsible member of a family, work group, or community.
- (c) The state and local program reviews and audits shall provide annual feedback to each school relating to selected programs and serve as indicators of the quality of educational experiences available to students. Program reviews and audits shall provide recommendations for improving program components in order to better teach and assess students within these programs. Program reviews shall ensure school and district accountability for student achievement of the capacities set forth in KRS 158.645 and the goals set forth in Section 1 of this Act.
- (5) The state student assessments to be implemented in the 2011-2012 academic year shall include the following components:
- (a) Elementary and middle grades requirements are:
    1. A criterion-referenced test in mathematics and reading in grades three (3) through eight (8) that is valid and reliable for an individual student and that measures the depth and breadth of Kentucky's academic

content standards, augmented with a customized or commercially available norm-referenced test to provide national profiles;

2. A criterion-referenced test in science and social studies that is valid and reliable for an individual student as necessary to measure the depth and breadth of Kentucky's academic content standards, augmented with a customized or commercially available norm-referenced test to provide national profiles to be administered one (1) time within the elementary and middle grades, respectively;
3. An on-demand assessment of student writing to be administered one (1) time within the elementary grades and two (2) times within the middle grades;
4. An editing and mechanics test relating to writing, using multiple choice and constructed response items, to be administered one (1) time within the elementary and the middle grades, respectively; and
5. A high school readiness examination to assess English, reading, mathematics, and science in grade eight (8) as provided in subsection (11) of this section; except the readiness examination may be moved to grade nine (9) by the Kentucky Board of Education based on compelling evidence that moving the test would be in the best interests of Kentucky students;

(b) High school requirements are:

1. A criterion-referenced test in mathematics, reading, and science that is valid and reliable for an individual student and that measures the depth and breadth of Kentucky's academic content standards that are not covered in the assessment under subparagraph 6. of this paragraph to be administered one (1) time within the high school grades;

2. A criterion-referenced test in social studies that is valid and reliable for an individual student as necessary to measure the depth and breadth of Kentucky's academic content standards, augmented with a customized or commercially available norm-referenced test to provide national profiles and to be administered one (1) time within the high school grades;
  3. An on-demand assessment of student writing to be administered two (2) times within the high school grades;
  4. An editing and mechanics test relating to writing, using multiple choice and constructed response items, to be administered one (1) time within the high school grades;
  5. A college readiness examination to assess English, reading, mathematics, and science in grade ten (10) as provided in subsection (11) of this section; and
  6. The ACT examination to assess English, reading, mathematics, and science in grade eleven (11) as provided in subsection (11) of this section;
- (c) The Kentucky Board of Education shall add any other component necessary to comply with the No Child Left Behind Act of 2001, 20 U.S.C. secs. 6301 et seq., or its successor, as determined by the United States Department of Education;
- (d) The criterion-referenced components required in this subsection shall be composed of constructed response items and multiple choice items and the national norm-referenced components shall be composed of multiple choice items;
- (e) The Kentucky Board of Education may incorporate end-of-course examinations into the assessment program to be used in lieu of

requirements for criterion-referenced tests required under paragraph (b) of this subsection; and

(f) The results of the assessment program developed under this subsection shall be used to determine appropriate instructional modifications for all students in order for students to make continuous progress including that needed by advanced learners.

(6) Beginning in the 2011-2012 academic year, each school district shall administer the statewide student assessment during the last fourteen (14) days of school in the district's instructional calendar. Testing shall be limited to no more than five (5) days. The Kentucky Board of Education shall promulgate administrative regulations outlining the procedures to be used during the testing process to ensure test security, including procedures for testing makeup days, and to comply with federal assessment requirements.

(7) Beginning in the 2011-2012 academic year, the Kentucky assessment program shall include program reviews and program audits for arts and humanities, practical living skills and career studies, and the writing programs. The results of the program reviews and audits of arts and humanities, practical living skills and career studies and writing required under this subsection shall be included in the accountability system as required by Section 4 of this Act.

(a) Arts and humanities.

1. The Kentucky Department of Education shall provide guidelines for arts and humanities programs and for integration of these within the curriculum to all schools.

2. The Kentucky Board of Education shall establish criteria to use in the program review and audit processes, and the procedures recommended for local district and department program reviews and program audits as defined in subsection (1)(h) and (i) of this section.

The department shall distribute the criteria and procedures for program reviews and audits to all schools and teacher preparation programs.

3. Each local district shall do an annual program review and the Department of Education shall conduct a program review of every school's program within a two (2) year period. The frequency of program audits shall be determined by the Department of Education in compliance with the requirements established by the state board.
4. Each school-based decision making council shall analyze the findings from program reviews for its school and determine how it will address program recommendations to improve the program for students.

(b) Practical living skills and career studies.

1. The Kentucky Department of Education shall provide guidelines for practical living skills and career studies and integration of these within the curriculum to all schools and teacher preparation programs.
2. The Kentucky Board of Education shall establish criteria to use in the program review and audit processes, and the procedures recommended for local district and department program reviews and program audits as defined in subsection (1)(h) and (i) of this section. The department shall distribute the criteria and procedures for program reviews and audits to all schools and teacher preparation programs.
3. Each local district shall do an annual program review and the Department of Education shall conduct a program review of every school's program within a two (2) year period. The frequency of program audits shall be determined by the Department of Education

in compliance with the requirements established by the state board.

4. Each school-based decision making council shall analyze the findings from programs reviews for its school and determine how it will address program recommendations to improve the program for students.

(c) Writing.

1. The Kentucky Department of Education shall provide guidelines for an effective writing program and establish criteria to use in the program review and program audit process as defined in subsection (1)(h) and (i) of this section. The department shall distribute the guidelines and criteria for program reviews within the curriculum to all schools and teacher preparation programs.
2. Each school-based decision making council or if there is no school council, a committee appointed by the principal, shall adopt policies that determine the writing program for its school and submit it to the Department of Education for review and comment. The writing program shall incorporate a variety of language resources, technological tools, and multiple opportunities for students to develop complex communication skills for a variety of purposes.
3. Writing portfolios, consisting of samples of individual student work that represent the interests and growth of the student over time, shall be a required part of any writing program in primary through grade twelve (12). Portfolios shall be part of the required criteria for the program review and audit process relating to the writing program under this paragraph. Individual student scores on portfolios shall not be included in the accountability system.
4. A writing portfolio shall be maintained for each student and follow

each student from grade to grade and to any school in which the student may enroll.

5. A school's policies for the writing program shall address the use of the portfolio for determining a student's performance in:

a. Communication;

b. Grading procedures and feedback to students regarding their writing and communication skills;

c. The responsibility for review of the portfolios and feedback to students; and

d. Other policies to improve the quality of an individual student's writing and communications skills.

6. Each local district shall do an annual program review and the Department of Education shall conduct a program review of every school's program within a two (2) year period. The frequency of program audits shall be determined by the Department of Education in compliance with the requirements established by the state board.

The Department of Education shall ensure that all schools and districts understand how the results of the program reviews and audits of arts and humanities, practical living skills and career studies and writing are included in the accountability system under Section 4 of this Act and shall provide assistance to schools to improve the quality of the programs under this subsection.

(8) Local school districts may select and use commercial interim or formative assessments or develop and use their own formative assessments to provide data on how well their students are growing toward mastery of Kentucky academic core content. Nothing in this section precludes teachers from using ongoing teacher-developed formative processes.

(9) Beginning with the 2010-2011 school year, each school that enrolls primary

students shall use diagnostic assessments and prompts that measure readiness in reading and mathematics for its primary students as determined by the school to be developmentally appropriate. The schools may use commercial products, use products and procedures developed by the district, or develop their own diagnostic procedures. The results shall be used to inform the teachers and parents or guardians of each student's skill level.

(10) In revising the state assessment program for implementation in 2011-2012 academic year, the state board shall ensure that a technically sound longitudinal comparison of the assessment results for the same students shall be made available.

~~{(2) The assessment program shall include the following components:~~

- ~~(a) A customized or commercially available norm-referenced tests that measures, to the extent possible, the core content for assessment. The test shall provide valid and reliable results for individual students;~~
- ~~(b) Open response or multiple-choice items, or both, to assess student skills in reading, mathematics, science, social studies, the arts, the humanities, and practical living and vocational studies; and an on-demand assessment of student writing. These assessments shall measure, to the extent possible, the core content for assessment;~~
- ~~(c) Writing portfolios consisting of samples of student work. After receiving the advice of the Writing Advisory Committee, the Kentucky Board of Education shall, by September 1 following April 14, 1998, file a notice of intent to promulgate an administrative regulation which reduces the teacher and student time involved in preparing a writing portfolio. Time reduction strategies included in the administrative regulation may include, but are not limited to, limiting the time spent on a single portfolio entry, limiting the number of revisions, or collecting entries at different grade levels;~~

~~(d) Performance assessment events for schools that have students enrolled in performing arts organizations sponsoring sanctioned events with an established protocol for adjudication; and~~

~~(e) A technically sound longitudinal comparison of the assessment results for the same students.~~

~~(3) The provisions of subsection (2) of this section shall apply to elementary schools, and shall also apply to middle and high schools, except as provided in subsections (4) to (8) of this section.]~~

**(11)** ~~[(4) No later than the 2007-2008 school year, and each year thereafter, ]~~The following provisions shall apply to the assessment **requirements**~~[program]~~ for middle and high schools:

(a) The assessment program shall include:

1. A high school readiness examination to assess English, reading, mathematics, and science in grade eight (8);
2. A college readiness examination to assess English, reading, mathematics, and science in grade ten (10);
3. The ACT college admissions and placement examination to assess English, reading, mathematics, and science, to be taken by all students in grade eleven (11); and
4. Any other component necessary to comply with the No Child Left Behind Act of 2001, 20 U.S.C. sec. 6301 et seq., as determined by the United States Department of Education;

(b) 1. A student whose scores on the high school readiness examination administered in grade eight (8) **or as determined by the Kentucky Board of Education under subsection (5) of this section** indicate a high degree of readiness for high school shall be counseled to enroll in accelerated courses; and

2. A student whose scores on the college readiness examination administered in grade ten (10) or the ACT college admissions and placement examination administered in grade eleven (11) indicate a high degree of readiness for college shall be counseled to enroll in accelerated courses, with an emphasis on Advanced Placement classes;
- (c) The cost of the initial ACT examination administered to students in grade eleven (11) shall be paid for by the Kentucky Department of Education. The costs of additional ACT examinations shall be the responsibility of the student;~~and~~
- (d) If funds are available, the Kentucky Department of Education shall provide an ACT preparation program to all public high school juniors. The department may contract for necessary services; *and*
- (e) The components of the middle and high school assessment program set forth in paragraph (a) of this subsection shall be administered in lieu of a customized or commercially available norm-referenced test under subsection (10)~~(2)~~(a) of this section.

(12) ~~[(5) No later than the 2007-2008 school year, and each year thereafter,]~~ Students in grades ten (10), eleven (11), and twelve (12) may take the WorkKeys assessments from ACT, Inc. in reading for information, locating information, and applied mathematics.

- (a) The costs of the initial WorkKeys assessments shall be paid by the Kentucky Department of Education *if funds are available for this purpose*. The cost of additional WorkKeys assessments shall be the responsibility of the student.
- (b) A student whose scores on the WorkKeys assessments indicate that additional assistance is required in reading for information, locating information, or applied mathematics shall have intervention strategies for accelerated learning incorporated into his or her learning plan.

- (c) A student meeting the WorkKeys threshold established by the Department of Workforce Investment shall be issued the appropriate Kentucky employability certificate.

~~[(6) (a) The Kentucky Department of Education shall conduct periodic studies comparing the standards in reading, mathematics, and science for middle and high schools within the Kentucky core content for assessment and the concepts and content measured by the ACT and the high school and college readiness examinations under subsection (4)(a) of this section.~~

- ~~(b) If the department determines that reading, mathematics, and science assessments required under subsection (4)(a) of this section are shown to provide direct measures of content standards and concepts identified in the Kentucky core content for assessment, the Kentucky Board of Education shall seek the advice of the Office of Education Accountability, the School Curriculum, Assessment, and Accountability Council, and the National Technical Advisory Panel on Assessment and Accountability regarding reducing the number of questions on the Commonwealth Accountability Testing System.~~

- ~~(c) The Kentucky Department of Education shall continue to include open-response or multiple-choice items, or both, that assess student knowledge and skills in reading, mathematics, and science to the degree necessary for adequate coverage of the elements of the Kentucky core content for assessment not covered by the examinations.]~~

(13)~~[(7)]~~ Accommodations provided by ACT, Inc. to a student with a disability taking the assessments under subsection (11)~~[(4)]~~(a)3. of this section shall consist of:

- (a) Accommodations provided in a manner allowed by ACT, Inc. when results in test scores are reportable to a postsecondary institution for admissions and placement purposes, except as provided in paragraph (b) of this subsection; or

- (b) Accommodations provided in a manner allowed by a student's individualized education program as defined in KRS 158.281 for a student whose disability precludes valid assessment of his or her academic abilities using the accommodations provided under paragraph (a) of this subsection when the student's scores are not reportable to a postsecondary institution for admissions and placement purposes.

~~(14)~~~~(8)~~ The assessments under subsections **(11) and (12)**~~(4) and (5)~~ of this section shall be known as the "Kentucky Work and College Readiness Examination" or "Readiness Examination."

~~(15)~~~~(9)~~ Kentucky teachers shall have a significant role in the design of the assessments. The assessments shall be designed to:

- (a) Measure grade appropriate core academic content, basic skills, and higher-order thinking skills and their application. The assessment shall measure the core content for assessment used by the Department of Education during the 1997-98 school year **until the 2011-2012 academic year. The revised academic content standards developed as required by subsection (2) of this section shall be used in the revised assessment program for implementation in the 2011-2012 academic year as required by subsection (3) of this section.** Any **future** revisions to the core content for assessment shall be developed through a public process involving parents; educators at the elementary, secondary, and postsecondary education levels; professional education advocacy groups and organizations; and business and civic leaders and shall be distributed to all public schools;
- (b) Provide valid and reliable scores for schools. If scores are reported for students individually, they shall be valid and reliable; and
- (c) Minimize the time spent by teachers and students on assessment.

**(16) (a) Through the fall of 2011,**~~(10)~~ results from the state assessment under this

section shall be reported to the school districts and schools no later than one hundred fifty (150) days following the first day the assessment can be administered.

**(b) Beginning in the fall of 2012, the results from assessment under subsections (3) and (5) of this section shall be reported to the school districts and schools no later than seventy-five (75) days following the first day the assessment can be administered.**

~~(17)~~~~(11)~~ The Department of Education shall gather information to establish the validity of the assessment and accountability program. It shall develop a biennial plan for validation studies that shall include but not be limited to the consistency of student results across multiple measures, the congruence of school scores with documented improvements in instructional practice and the school learning environment, and the potential for all scores to yield fair, consistent, and accurate student performance level and school accountability decisions. Validation activities shall take place in a timely manner and shall include a review of the accuracy of scores assigned to students and schools, as well as of the testing materials. The plan shall be submitted to the Commission by July 1 of the first year of each biennium. A summary of the findings shall be submitted to the Legislative Research Commission by September 1 of the second year of the biennium.

~~(18)~~~~(12)~~ ~~[In addition to statewide testing for the purpose of determining school success,~~  
}The **Department of Education and the state** board shall have the responsibility of assisting local school districts and schools in developing and using continuous assessment strategies needed to assure student progress. The continuous assessment shall provide diagnostic information to improve instruction to meet the needs of individual students.

**(19) No later than sixty (60) days after the effective date of this Act, the state board shall revise the Administration Code for Kentucky's Assessment Program to**

**include prohibitions of inappropriate test preparation activities by school district employees charged with test administration and oversight, including but not limited to the issue of teachers being required to do test practice in lieu of regular classroom instruction and test practice outside the normal work day. The revisions shall include disciplinary sanctions that may be taken toward a school or individuals.**

~~(20)~~~~(13)~~ The Kentucky Board of Education, after the Department of Education has received advice from the Office of Education Accountability; the School Curriculum, Assessment, and Accountability Council; and the National Technical Advisory Panel on Assessment and Accountability, shall promulgate an administrative regulation under KRS Chapter 13A to establish the components of a reporting structure for assessments administered under this section. The reporting structure shall include the following components:

- (a) A school report card that clearly communicates with parents and the public about school performance. The school report card shall be sent to the parents of the students of the districts, and a summary of the results for the district shall be published in the newspaper with the largest circulation in the county. It shall include but not be limited to the following components reported by race, gender, and disability when appropriate:
1. Student academic achievement, including the results from each of the assessments administered under this section;
  2. For Advanced Placement and International Baccalaureate, the courses offered, the number of students enrolled, completing, and taking the examination for each course, and the percentage of examinees receiving a score of three (3) or better on AP examinations or a score of five (5) or better on IB examinations. The data shall be disaggregated by gender, race, students with disabilities, and economic status. This data shall be

- included in the report card beginning with the 2009-2010 academic year;
3. Nonacademic achievement, including the school's attendance, retention, **graduation**~~[dropout]~~ rates, and student transition to adult life; and
  4. School learning environment, including measures of parental involvement;
- (b) An individual student report to parents for each~~[fifth-grade]~~ student **in grades three (3) through eight (8)** summarizing the student's **skills**~~[readiness]~~ in reading and mathematics~~[based on the student's fourth-grade state assessment results]~~. The school's~~[fifth-grade]~~ staff shall develop a plan for accelerated learning for any student with identified deficiencies **or strengths**;
- (c) An individual report for each student who takes a high school or college readiness examination administered under subsection **(11)**~~[(4)]~~(a) of this section that:
1. Provides the student's test scores;
  2. Provides a judgment regarding whether or not a student has met, **exceeded**, or failed to meet the expectations for each standard assessed; and
  3. Is designed to assist students, parents, and teachers to identify, assess, and remedy academic deficiencies prior to high school graduation; and
- (d) A student's scores on the ACT examination or WorkKeys assessments administered under subsections **(11) and (12)**~~[(4)(a) and (5)]~~ of this section and the ACT examination under KRS 158.6459(5) shall be recorded on his or her official high school transcript.

**(21) The Kentucky Board of Education shall conduct periodic alignment studies that compare the norm-referenced tests required under subsection (5) of Section 2 of this Act with the standards in the different content areas to determine how well the norm-referenced tests align and adequately measure the depth of knowledge**

and breadth of Kentucky's academic content standards. Based on its findings from the studies, the board may decrease the number of required criterion-referenced items required under subsection (5) of Section 2 of this Act.

→ Section 3. KRS 158.6452 is amended to read as follows:

- (1) A School Curriculum, Assessment, and Accountability Council is hereby created to study, review, and make recommendations concerning Kentucky's system of setting academic standards, assessing learning, identifying academic competencies and deficiencies of individual students, holding schools accountable for learning, and assisting schools to improve their performance. The council shall advise the Kentucky Board of Education and the Legislative Research Commission on issues related to the development and communication of the academic expectations and core content for assessment, the development and implementation of the statewide assessment and accountability program, recognition of high performing schools,~~the distribution of rewards and~~ imposition of sanctions, and assistance for schools to improve their performance under KRS 158.6453, 158.6455, 158.782, and 158.805.
- (2) The School Curriculum, Assessment, and Accountability Council shall be composed of seventeen (17) voting members appointed by the Governor. On making appointments to the council, the Governor shall assure broad geographical representation and representation of elementary, middle, and secondary school levels; assure equal representation of the two (2) sexes, inasmuch as possible; and assure that appointments reflect the minority racial composition of the Commonwealth. The members shall serve terms of two (2) years with no member serving more than two (2) consecutive terms, except that seven (7) of the initial appointments shall be for four (4) year terms. The members shall be appointed as follows:
  - (a) Two (2) parents from recommendations submitted by organizations

- representing school councils and parents;
- (b) Two (2) teachers from recommendations submitted by organizations representing teachers;
  - (c) Two (2) superintendents from recommendations submitted by organizations representing superintendents;
  - (d) Two (2) principals from organizations representing school administrators;
  - (e) Two (2) local school board members from recommendations submitted by organizations representing school boards;
  - (f) Two (2) school district assessment coordinators from recommendations submitted by organizations representing district assessment coordinators;
  - (g) Two (2) employers in the state from recommendations submitted by organizations representing business and industry;
  - (h) Two (2) university professors with expertise in assessment and measurement;  
and
  - (i) One (1) at-large member.
- (3) The School Curriculum, Assessment, and Accountability Council shall elect a chair annually from its membership.
- (4) The members shall be remunerated for actual and necessary expenses incurred while attending meetings of the council or while serving as representative of the council.
- (5) The School Curriculum, Assessment, and Accountability Council shall meet at least four (4) times each year at times and places as it determines by resolution.
- (6) The School Curriculum, Assessment, and Accountability Council shall be attached to the Department of Education for administrative purposes. It shall be provided appropriate staff and resources to conduct its work.

➔Section 4. KRS 158.6455 is amended to read as follows:

It is the intent of the General Assembly that schools succeed with all students and receive

the appropriate consequences in proportion to that success.

- (1) (a) After receiving the advice of the Office of Education Accountability; the School Curriculum, Assessment, and Accountability Council; and the National Technical Advisory Panel on Assessment and Accountability, the Kentucky Board of Education shall promulgate administrative regulations in conformity with KRS 158.6471 and 158.6472 and KRS Chapter 13A to establish a system for identifying ~~and rewarding~~ successful schools.~~A reward shall be distributed to successful schools based on the number of full-time, part-time, and itinerant certified staff employed in the school on the last working day of the year of the reward to be used for school purposes as determined by the school council or, if none exists, the principal.~~ The Kentucky Board of Education shall identify reports, paperwork requirements, and administrative regulations from which high performing schools shall be exempt.
- (b) ~~Effective July 1, 2006,~~ The Kentucky Board of Education shall **recognize**~~reward~~ schools that exceed their improvement goal and have an annual average dropout rate below five percent (5%). A student shall be included in the annual average dropout rate if the student was enrolled in the school of record for at least thirty (30) days during the school year prior to the day he or she was recorded as dropping out of school. A student shall not be included in a school's annual average dropout rate if:
1. The student is enrolled in a district-operated or district-contracted alternative program leading to a certificate of completion or a General Educational Development (GED) diploma; or
  2. The student has withdrawn from school and is awarded a General Educational Development (GED) diploma by October 1 of the following school year.

- (c) A student enrolled in a district-operated or district-contracted alternative program shall participate in the appropriate assessments required by the assessment program~~[Commonwealth—Accountability—Testing—System]~~ established in KRS 158.6453.
- (2) ~~[After receiving the advice of the Office of Education Accountability; the School Curriculum, Assessment, and Accountability Council; and the National Technical Advisory Panel on Assessment and Accountability, the Kentucky Board of Education shall promulgate by administrative regulation in conformity with KRS 158.6471 and 158.6472 and KRS Chapter 13A the formula for a school accountability index to classify schools every two (2) years based on whether they have met their threshold level for school improvement, with school years 1998-2000 serving as the baseline, except the Department of Education shall seek advice from the National Technical Advisory Panel on Assessment and Accountability for adjustments required if substantive changes are made to the assessment and accountability system. The formula shall reflect the school goals described in KRS 158.6451, except there shall be no measurement of the goals included in subsection (1)(b)3. and (1)(b)4.]~~ *After the academic standards are revised and a new student assessment program is developed pursuant to Section 2 of this Act, the Kentucky Board of Education shall create an accountability system to classify districts and schools.*
- 1. The accountability system shall include:*
    - a. The results of program assessments of arts and humanities, practical living skills and career studies, and writing programs;*
    - b. Student assessment results;*
    - c. School improvement results; and*
    - d. Other factors deemed appropriate by the board.*
  - 2. The board shall determine how student assessment and program*

assessment data from the 2011-2012 and 2012-2013 school years shall be used and reported within the new accountability system.

3. Prior to promulgating administrative regulations to revise the accountability system, the board shall seek advice from the School Curriculum, Assessment, and Accountability Council; the Office of Education Accountability; the Education Assessment and Accountability Review Subcommittee; and the National Technical Advisory Panel on Assessment and Accountability.

- (3) A student's test scores shall be counted in the accountability measure~~[index]~~ of:
- (a) 1. The school in which the student is currently enrolled if the student has been enrolled in that school for at least a full academic year as defined by the Kentucky Board of Education~~[one hundred (100) days of the school year prior to the beginning of the statewide testing period]~~; or
  2. The school in which the student was previously enrolled if the student was enrolled in that school for at least a full academic year as defined by the Kentucky Board of Education~~[one hundred (100) days of the school year prior to the beginning of the statewide testing period]~~; and
  - (b) The school district if the student is enrolled in the district for at least a full academic year as defined by the Kentucky Board of Education~~[one hundred (100) days of the school year prior to the beginning of the statewide testing period]~~; and
  - (c) The state if the student is enrolled in a Kentucky public school prior to the beginning of the statewide testing period.
- (4) After receiving the advice of the Office of Education Accountability; the School Curriculum, Assessment, and Accountability Council; and the National Technical Advisory Panel on Assessment and Accountability, the Kentucky Board of Education shall promulgate an administrative regulation in conformity with KRS

158.6471 and 158.6472 and KRS Chapter 13A to establish appropriate consequences for schools failing to meet their accountability measures~~[threshold]~~. The consequences shall be designed to improve the academic performance and learning environment of identified schools~~[teaching and learning]~~ and may include but not be limited to:

- (a) A review and~~[scholastic]~~ audit process under subsection (5) of this section to determine the appropriateness of a school's or district's classification and to recommend needed assistance;
  - (b) School and district improvement plans;
  - (c) Eligibility to receive Commonwealth school improvement funds under KRS 158.805;
  - (d) Education assistance from highly skilled certified staff under KRS 158.782;
  - (e) Evaluation of school personnel; and
  - (f) Student transfer to successful schools.
- (5) ~~[(a) After receiving the advice of the Office of Education Accountability; the School Curriculum, Assessment, and Accountability Council; and the National Technical Advisory Panel on Assessment and Accountability,]The Kentucky Board of Education shall promulgate an administrative regulation in conformity with KRS 158.6471 and 158.6472 and KRS Chapter 13A establishing the guidelines for conducting program reviews and~~[scholastic]~~ audits~~[, which shall include the process for:~~~~
- 1. ~~Appointing and training team members. The team shall include at least a highly skilled certified educator under KRS 158.782, a teacher, a principal or other local district administrator, a parent, and a university faculty member;~~
  - 2. ~~Reviewing a school's learning environment, efficiency, and academic performance of students and the quality of the school council's data~~

~~analysis and planning in accordance with KRS 160.345(2)(j);~~

~~3. Evaluating each certified staff member assigned to the school. Only certified members of the audit team shall evaluate personnel; and~~

~~4. Making a recommendation to the Kentucky Board of Education about the appropriateness of a school's classification and a recommendation concerning the assistance required by the school to improve teaching and learning.~~

~~(b) The scholastic audit team shall consider the functioning of the school council in its review and make recommendations for improvement of the school council, if needed, and concerning the authority of the school council if required under KRS 160.346.~~

~~(c) For information purposes, the board shall also conduct scholastic audits in a sample of schools that achieved their goal and report to the public on the resulting findings regarding each aspect of the schools' operations required under subparagraph 2. of paragraph (a) of this subsection].~~

(6) All students who drop out of school during a school year shall be included in a school's annual average school **graduation rate calculation**~~[dropout rate]~~, except as provided in subsection (1)(b) of this section.

(7) After receiving the advice of the **Education Assessment and Accountability Review Subcommittee, the** Office of Education Accountability; the School Curriculum, Assessment, and Accountability Council; and the National Technical Advisory Panel on Assessment and Accountability, the Kentucky Board of Education may promulgate by administrative regulation, in conformity with KRS 158.6471 and 158.6472 and KRS Chapter 13A, a system of district accountability that includes establishing a formula for accountability, goals for improvement over a two (2) year period, rewards for leadership in improving teaching and learning in the district, and consequences that address the problems and provide assistance when the district

fails to achieve its goals set by the board. *The board shall revise the district accountability system based on the revised assessment program, including program and student assessments, to be implemented in the 2011-2012 school year as required in Section 2 of this Act.*

- (8) After receiving the advice of the Office of Education Accountability; the School Curriculum, Assessment, and Accountability Council; and the National Technical Advisory Panel on Assessment and Accountability, the Kentucky Board of Education shall promulgate administrative regulations in conformity with KRS 158.6471 and 158.6472 and KRS Chapter 13A, to establish a process whereby a school shall be allowed to appeal a performance judgment which it considers grossly unfair. Upon appeal, an administrative hearing shall be conducted in accordance with KRS Chapter 13B. The state board may adjust a performance judgment on appeal when evidence of highly unusual circumstances warrants the conclusion that the performance judgment is based on fraud or a mistake in computations, is arbitrary, is lacking any reasonable basis, or when there are significant new circumstances occurring during the biennial assessment period which are beyond the control of the school.

➔ Section 5. KRS 158.6458 is amended to read as follows:

The Department of Education shall develop a plan for implementing the state assessment and accountability system created under KRS 158.6453 and 158.6455 and shall report quarterly to the Interim Joint Committee on Education on its progress in the following areas:

- (1) Establishing a consistent structure of test components, grade-level testing distribution, and test administration procedures;
- (2) Beginning a new cycle of equating procedures for which their adequacy and precision can be tested rigorously and conducting appropriate equating analyses to accommodate the new accountability system;

- (3) Publishing more complete and informative guides for interpreting school accountability~~[index score]~~ changes ~~[that include information about the estimated error of the accountability index, as well as information about the connections between index score changes and estimated changes in student performance levels]~~;
- (4) Reviewing school accountability classifications to assure their construct validity in all cases where they are applied;
- (5) Maintaining and strengthening the ***assessment of schools' program reviews***~~[annual audit of portfolio scores in ways that serve to minimize the differences between teacher produced scores and audit generated scores]~~;
- (6) Developing and implementing a validity research plan as required under KRS 158.6453;
- (7) Establishing additional routine audits of key processes in the assessment and accountability program;
- (8) Maintaining and cataloging a library of technical documents related to the assessment and accountability program for internal and external review purposes. In addition, the department shall produce an annual technical report for audiences that include educators, testing coordinators, parents, and legislators; and
- (9) Maintaining a vigorous ongoing program of research and documentation of the effects of the assessment and accountability system on Kentucky schools.

➔ Section 6. KRS 158.6459 is amended to read as follows:

- (1) A high school student whose scores on the high school readiness examination administered in grade eight (8), on the college readiness examination administered in grade ten (10), or on the WorkKeys indicate that additional assistance ***or advanced work*** is required in English, reading, or mathematics shall have intervention strategies for accelerated learning incorporated into his or her learning plan.
- (2) A high school student whose score on the ACT examination under KRS 158.6453

~~(11)(4)~~(a)3. in English, reading, or mathematics is below the systemwide standard established by the Council on Postsecondary Education for entry into a credit-bearing course at a public postsecondary institution without placement in a remedial course or an entry-level course with supplementary academic support shall be provided the opportunity to participate in accelerated learning designed to address his or her identified academic deficiencies prior to high school graduation.

- (3) A high school, in collaboration with its school district, shall develop and implement accelerated learning that:
  - (a) Allows a student's learning plan to be individualized to meet the student's academic needs based on an assessment of test results and consultation among parents, teachers, and the student; and
  - (b) May include changes in a student's class schedule.
- (4) The Kentucky Department of Education, the Council on Postsecondary Education, and public postsecondary institutions shall offer support and technical assistance to schools and school districts in the development of accelerated learning.
- (5) A student who participates in accelerated learning under this section shall be permitted to take the ACT examination a second time prior to high school graduation at the expense of the Kentucky Department of Education. The cost of any subsequent administrations of the achievement test shall be the responsibility of the student.

➔ Section 7. KRS 158.649 is amended to read as follows:

- (1) "Achievement gap" means a substantive performance difference on each of the tested areas by grade level of the state assessment program~~Commonwealth Accountability Testing System~~ between the various groups of students including male and female students, students with and without disabilities, students with and without English proficiency, minority and nonminority students, and students who are eligible for free and reduced lunch and those who are not eligible for free and

reduced lunch.

- (2) By November 1 of each year, the Department of Education shall provide each school council, or the principal if a school council does not exist, data on its students' performance as shown by the state assessment program described in Section 2 of this Act~~[Commonwealth Accountability Testing System]~~. The data shall include, but not be limited to, information on performance levels of all students tested, and information on the performance of students disaggregated by race, gender, disability, English proficiency, and participation in the federal free and reduced price lunch program. The information from the department shall include an equity analysis that shall identify the substantive differences among the various groups of students identified in subsection (1) of this section. Beginning with the 2012-2013 school year, the reporting requirement in this subsection shall be no later than seventy-five (75) days following the first day the assessment can be administered.
- (3) ~~[By December 1, 2002,]~~ Each local board of education upon the recommendation of the local district superintendent shall adopt a policy for reviewing the academic performance on the state assessments required under KRS 158.6453 for various groups of students, including major racial groups, gender, disability, free and reduced price school lunch eligibility, and limited English proficiency. The local board policy shall be consistent with Kentucky Board of Education administrative regulations. Upon agreement of the school-based decision making council, or the principal if there is not a council, and the superintendent, the local board shall establish a biennial target for each school for reducing identified gaps in achievement as set out in subsection (4) of this section.
- (4) By February 1, 2003, and each February 1 in odd-numbered years thereafter, the school-based decision making council, or the principal if there is not a council, with the involvement of parents, faculty, and staff shall set the school's biennial targets

for eliminating any achievement gap and submit them to the superintendent for consideration. The superintendent and the school-based decision making council, or the principal if there is not a council, shall agree on the biennial targets before they are submitted to the local board of education for adoption. **Beginning with the 2012-2013 school year, the reporting requirement in this subsection shall be October 1 of each year.**

- (5) By April 1, 2003, and each April 1 in odd-numbered years thereafter, the school council, or the principal if a school council does not exist, with the involvement of parents, faculty, and staff, shall review the data and revise the consolidated plan to include the biennial targets, strategies, activities, and a time schedule calculated to eliminate the achievement gap among various groups of students to the extent it may exist. The plan shall include but not be limited to activities designed to address the following areas:
- (a) Curriculum alignment within the school and with schools that send or receive the school's students;
  - (b) Evaluation and assessment strategies to continuously monitor and modify instruction to meet student needs and support proficient student work;
  - (c) Professional development to address the goals of the plan;
  - (d) Parental communication and involvement;
  - (e) Attendance improvement and dropout prevention; and
  - (f) Technical assistance that will be accessed.

**Beginning with the 2012-2013 school year, the reporting requirement in this subsection shall be October 1 of each year.**

- (6) The principal shall convene a public meeting at the school to present and discuss the plan prior to submitting it to the superintendent and the local board of education for review, in the public meeting required under KRS 160.340
- (7) Based on the disaggregated ~~biennial~~ assessment results, the local board shall

determine if each school achieved its ~~biennial~~ targets for each group of students. Only data for a group of students including ten (10) or more students shall be considered.

- (8) Notwithstanding KRS 160.345(8) and 158.070(8), if a local board determines that a school has not met its ~~biennial~~ target to reduce the identified gap in student achievement for a group of students, the local board shall require the council, or the principal if no council exists, to submit its revisions to the school improvement~~consolidated~~ plan describing the use of professional development funds and funds allocated for continuing education to reduce the school's achievement gap for review and approval by the superintendent. The plan shall address how the school will meet the academic needs of the students in the various groups identified in subsection (1) of this section.
- (9) The superintendent shall report to the commissioner of education if a school fails to meet its targets to reduce the gap in student achievement for any student group for two (2) consecutive years~~successive biennia~~. The school's improvement~~consolidated~~ plan shall be subject to review and approval by the Kentucky Department of Education and the school shall submit an annual status report. The Department of Education may provide assistance to schools as it deems necessary to assist the school in meeting its goals.
- (10) The school-based decision making council, or the principal if there is not a council, shall no longer be required to seek approval of the plan under subsections (8) and (9) of this section when it meets its biennial target for reducing the gap in student achievement for the various groups of students identified in subsection (1) of this section.

➔ Section 8. KRS 156.095 is amended to read as follows:

- (1) The Kentucky Department of Education shall establish, direct, and maintain a statewide program of professional development to improve instruction in the public

schools.

- (2) Each local school district superintendent shall appoint a certified school employee to fulfill the role and responsibilities of a professional development coordinator who shall disseminate professional development information to schools and personnel. Upon request by a school council or any employees of the district, the coordinator shall provide technical assistance to the council or the personnel that may include assisting with needs assessments, analyzing school data, planning and evaluation assistance, organizing districtwide programs requested by school councils or groups of teachers, or other coordination activities.
  - (a) The manner of appointment, qualifications, and other duties of the professional development coordinator shall be established by Kentucky Board of Education through promulgation of administrative regulations.
  - (b) The local district professional development coordinator shall participate in the Kentucky Department of Education annual training program for local school district professional development coordinators. The training program may include, but not be limited to, the demonstration of various approaches to needs assessment and planning; strategies for implementing long-term, school-based professional development; strategies for strengthening teachers' roles in the planning, development, and evaluation of professional development; and demonstrations of model professional development programs. The training shall include information about teacher learning opportunities relating to the core content standards. The Kentucky Department of Education shall regularly collect and distribute this information.
- (3) The Kentucky Department of Education shall provide or facilitate optional, professional development programs for certified personnel throughout the Commonwealth that are based on the statewide needs of teachers, administrators, and other education personnel. Programs may include classified staff and parents

when appropriate. Programs offered or facilitated by the department shall be at locations and times convenient to local school personnel and shall be made accessible through the use of technology when appropriate. They shall include programs that: address the goals for Kentucky schools as stated in KRS 158.6451, including reducing the achievement gaps as determined by an equity analysis of the disaggregated student performance data from the state assessment program developed under Section 2 of this Act~~[Commonwealth Accountability Testing System]~~; engage educators in effective learning processes and foster collegiality and collaboration; and provide support for staff to incorporate newly acquired skills into their work through practicing the skills, gathering information about the results, and reflecting on their efforts. Professional development programs shall be made available to teachers based on their needs which shall~~[may]~~ include~~[,]~~ but not be limited to~~[, focus on]~~ the following areas:

- (a) Strategies to reduce the achievement gaps among various groups of students and to provide continuous progress;
- (b) Curriculum content and methods of instruction for each content area including differentiated instruction;
- (c) School-based decision making;
- (d) Assessment literacy;
- (e) Integration of performance-based student assessment into daily classroom instruction;
- ~~(f)~~~~(e)~~ Nongraded primary programs;
- ~~(g)~~~~(f)~~ Research-based instructional practices;
- ~~(h)~~~~(g)~~ Instructional uses of technology;
- ~~(i)~~~~(h)~~ Curriculum design to serve the needs of students with diverse learning styles and skills and of students of diverse cultures;
- ~~(j)~~~~(i)~~ Instruction in reading, including~~[of]~~ phonics, phonemic awareness,

*comprehension, fluency, and vocabulary;*

~~(k)(j)~~ Educational leadership; and

~~(l)(k)~~ Strategies to incorporate character education throughout the curriculum.

(4) ~~[The department shall utilize its regional service centers, in addition to collaboration with postsecondary education institutions, education cooperative and consortia, and professional education organizations, to provide local district personnel with access to high quality programming.]~~ The department shall assist school personnel in assessing the impact of professional development on their instructional practices and student learning.

(5) The department shall assist districts and school councils with the development of long-term school and district improvement plans that include multiple strategies for professional development based on the assessment of needs at the school level.

(a) Professional development strategies may include, but are not limited to, participation in subject matter academies, teacher networks, training institutes, workshops, seminars, and study groups; collegial planning; action research; mentoring programs; appropriate university courses; and other forms of professional development.

(b) In planning the use of the four (4) days for professional development under KRS 158.070, school councils and districts shall give priority to programs that increase teachers' understanding of curriculum content and methods of instruction appropriate for each content area based on individual school plans. The district may use up to one (1) day to provide district-wide training and training that is mandated by state or federal law. Only those employees identified in the mandate or affected by the mandate shall be required to attend the training.

(c) State funds allocated for professional development shall be used to support professional development initiatives that are consistent with local school

improvement and professional development plans and teachers' individual growth plans. The funds may be used throughout the year for all staff, including classified and certified staff and parents on school councils or committees. A portion of the funds allocated to each school council under KRS 160.345 may be used to prepare or enhance the teachers' knowledge and teaching practices related to the content and subject matter that are required for their specific classroom assignments.

- (6) The Department of Education shall establish an electronic consumer bulletin board that posts information regarding professional development providers and programs as a service to school district central office personnel, school councils, teachers, and administrators. Participation on the electronic consumer bulletin board shall be voluntary for professional development providers or vendors, but shall include all programs sponsored by the department. Participants shall provide the following information: program title; name of provider or vendor; qualifications of the presenters or instructors; objectives of the program; program length; services provided, including follow-up support; costs for participation and costs of materials; names of previous users of the program, addresses, and telephone numbers; and arrangements required. Posting information on the bulletin board by the department shall not be viewed as an endorsement of the quality of any specific provider or program.
- (7) The Department of Education shall provide training to address the characteristics and instructional needs of students at risk of school failure and most likely to drop out of school. The training shall be developed to meet the specific needs of all certified and classified personnel depending on their relationship with these students. The training for instructional personnel shall be designed to provide and enhance skills of personnel to:
  - (a) Identify at-risk students early in elementary schools as well as at-risk and

potential dropouts in the middle and high schools;

- (b) Plan specific instructional strategies to teach at-risk students;
  - (c) Improve the academic achievement of students at risk of school failure by providing individualized and extra instructional support to increase expectations for targeted students;
  - (d) Involve parents as partners in ways to help their children and to improve their children's academic progress; and
  - (e) Significantly reduce the dropout rate of all students.
- (8) ~~[By July 1, 2001, ]~~The department shall establish teacher academies to the extent funding is available in cooperation with postsecondary education institutions for elementary, middle school, and high school faculty in core disciplines, utilizing facilities and faculty from universities and colleges, local school districts, and other appropriate agencies throughout the state. Priority for participation shall be given to those teachers who are teaching core discipline courses for which they do not have a major or minor or the equivalent. Participation of teachers shall be voluntary.

➔Section 9. KRS 158.816 is amended to read as follows:

- (1) The Kentucky Department of Education and the Office of Career and Technical Education, with involvement of representatives from the local school districts and teacher preparation institutions, shall jointly complete an annual statewide analysis and report of academic achievement of technical education students who have completed or are enrolled in a sequence of a technical program of at least three (3) high school credits.
- (2) The analysis shall include the previous year's results from the **state assessment program described in Section 2 of this Act**~~[Commonwealth Accountability Testing System]~~. The data shall be disaggregated for all high school students by career cluster areas of agriculture, business and marketing, human services, health services, transportation, construction, communication, and manufacturing and by

special populations. Where available, disaggregated data from other national assessments shall also be used.

(3) (a) The Kentucky Department of Education, with assistance from the Office of Career and Technical Education, shall coordinate the development of a statewide technical assistance plan to aid providers of programs in identifying areas for improvement for those schools that do not meet their school performance goal and for those schools where technical students as a group do not score equal to or better than the school average in each of the academic areas. The plan shall address methodologies for further analysis at each school including but not limited to:

1. The academic course-taking patterns of the technical students;
2. The rigor and intensity of the technical programs and expectations for student performance in reading, math, science, and writing and other academic skills as well as in technical skill development;
3. The level of communication and collaboration between teachers in technical programs and academic programs, planning, and opportunity for analyzing student achievement, particularly between faculty in the comprehensive high schools with the faculty in state-operated or locally operated secondary area centers and vocational departments;
4. The faculties' understanding of Kentucky's program of studies, academic expectations, and core content for assessment;
5. The knowledge and understanding of academic teachers and technical teachers in integrating mutually supportive curricula content;
6. The level of curricula alignment and articulation in grades eight (8) to sixteen (16);
7. The availability of extra help for students in meeting higher standards;
8. The availability and adequacy of school career and guidance counseling;

9. The availability and adequacy of work-based learning;
  10. The availability and adequacy of distance learning and educational technology;
  11. The adequacy of involvement of business and industry in curricula, work-based learning, and program development; and
  12. The adequacy of teachers' preparation to prepare them for teaching both academic and technical skills to all students that are necessary for successful transition to postsecondary education, work, or the military.
- (b) The department and the office, in cooperation with teacher preparation programs, postsecondary education institutions, and other appropriate partners, shall ensure that academic core content is imbedded or integrated within the performance requirements for students.
- (c) The department and the office, in cooperation with the Kentucky Community and Technical College System, shall encourage postsecondary education and business and industry to provide professional development and training opportunities to engage technical faculty in continuous improvement activities to enhance their instructional skills.
- (d) The department and the office shall continue efforts with business and industry to develop occupation skill standards and assessments. All efforts shall be made with the involvement of business, industry, and labor. Skill standards and assessments, where available, shall be used as the focus of the curricula.
- (4) The department and the office shall consult with the Education Professional Standards Board in carrying out the requirements of this section as they relate to teacher preparation.

➔ Section 10. KRS 159.035 is amended to read as follows:

- (1) Notwithstanding the provisions of any other statute, any student in a public school

who is enrolled in a properly organized 4-H club shall be considered present at school for all purposes when participating in regularly scheduled 4-H club educational activities, provided, the student is accompanied by or under the supervision of a county extension agent or the designated 4-H club leader for the 4-H club educational activity participated in.

- (2) Except as provided in paragraph (e) of this subsection, a public school principal shall give a student an excused absence of up to ten (10) school days to pursue an educational enhancement opportunity determined by the principal to be of significant educational value, including but not limited to participation in an educational foreign exchange program or an intensive instructional, experiential, or performance program in one (1) of the core curriculum subjects of English, science, mathematics, social studies, foreign language, and the arts.
  - (a) A student receiving an excused absence under this subsection shall have the opportunity to make up school work missed and shall not have his or her class grades adversely affected for lack of class attendance or class participation due to the excused absence.
  - (b) Educational enhancement opportunities under this subsection shall not include nonacademic extracurricular activities, but may include programs not sponsored by the school district.
  - (c) If a request for an excused absence to pursue an educational enhancement opportunity is denied by a school principal, a student may appeal the decision to the district superintendent, who shall make a determination whether to uphold or alter the decision of the principal. If a superintendent upholds a principal's denial, a student may appeal the decision to the local board of education, which shall make a final determination. A principal, superintendent, and local board of education shall make their determinations based on the provisions of this subsection and the district's school attendance

policies adopted in accordance with KRS 158.070 and KRS 159.150.

- (d) A student receiving an excused absence under the provisions of this subsection shall be considered present in school during the excused absence for the purposes of calculating average daily attendance as defined by KRS 157.320 under the Support Education Excellence in Kentucky program.
  - (e) A student shall not be eligible to receive an excused absence under the provisions of this subsection for an absence during a school's testing window established for assessments of the state assessment developed under Section 2 of this Act~~[Commonwealth Accountability Testing System under KRS 158.6453]~~ or during a testing period established for the administration of additional district-wide assessments at the school, except if a principal determines that extenuating circumstances make an excused absence to pursue an educational enhancement opportunity appropriate.
- (3) (a) If a student's parent, de facto custodian, or other person with legal custody or control of the student is a member of the United States Armed Forces, including a member of a state National Guard or a Reserve component called to federal active duty, a public school principal shall give the student:
- 1. An excused absence for one (1) day when the member is deployed; and
  - 2. An additional excused absence for one (1) day when the service member returns from deployment.
- (b) A student receiving an excused absence under this subsection shall have the opportunity to make up school work missed and shall not have his or her class grades adversely affected for lack of class attendance or class participation due to the excused absence.
- (c) A student receiving an excused absence under this subsection shall be considered present in school during the excused absence for the purposes of calculating average daily attendance as defined by KRS 157.320 under the

Support Education Excellence in Kentucky program.

➔ Section 11. KRS 158.805 is amended to read as follows:

- (1) There is hereby created the Commonwealth school improvement fund to assist local schools in pursuing new and innovative strategies to meet the educational needs of the school's students and raise at the school's performance level. ~~Except for the school years 2002-2003 and 2003-2004 when the priority for the use of the fund shall be to provide technical assistance to schools identified under subsection (2) of this section to reduce the achievement gaps among the various groups of students as described in KRS 158.649,~~ The Kentucky Board of Education shall utilize the Commonwealth school improvement fund to provide grants to schools for the following purposes:
  - (a) To support teachers and administrators in the development of sound and innovative approaches to improve instruction or management, **including better use of formative and summative, performance-based assessments;**
  - (b) To assist in replicating successful programs developed in other districts including those calculated to reduce achievement gaps as defined in KRS 158.649;
  - (c) To encourage cooperative instructional or management approaches to specific school educational problems; and
  - (d) To encourage teachers and administrators to conduct experimental programs to test concepts and applications being advanced as solutions to specific educational problems.
- (2) The Kentucky Board of Education shall develop criteria for awards of grants from the Commonwealth school improvement fund to schools identified by the board as needing assistance under KRS 158.6455.
- (3) The Kentucky Board of Education shall have the sole authority to approve grants from the fund.

- (4) The Kentucky Board of Education may establish priorities for the use of the funds and, through the Department of Education, shall provide assistance to schools in preparing their grant proposals. The board shall require that no funds awarded under the Commonwealth school improvement fund are used to supplant funds from any other source. Requests for necessary equipment may be approved at the discretion of the state board, however the cost of equipment purchased by any grantee shall not exceed twenty percent (20%) of the total amount of money awarded for each proposal and shall be matched by local funds on a dollar for dollar basis.
- (5) The Kentucky Board of Education shall establish maximums for specific grant awards. All fund recipients shall provide the board with an accounting of all money received from the fund and shall report the results and conclusions of any funded projects to the Kentucky Board of Education. All fund recipients shall provide the board with adequate documentation of all projects to enable replication of successful projects in other areas of the state.

➔ Section 12. KRS 160.345 is amended to read as follows:

- (1) For the purpose of this section:
- (a) "Minority" means American Indian; Alaskan native; African-American; Hispanic, including persons of Mexican, Puerto Rican, Cuban, and Central or South American origin; Pacific islander; or other ethnic group underrepresented in the school;
- (b) "School" means an elementary or secondary educational institution that is under the administrative control of a principal and is not a program or part of another school. The term "school" does not include district-operated schools that are:
1. Exclusively vocational-technical, special education, or preschool programs;
  2. Instructional programs operated in institutions or schools outside of the

district; or

3. Alternative schools designed to provide services to at-risk populations with unique needs;

(c) "Teacher" means any person for whom certification is required as a basis of employment in the public schools of the state, with the exception of principals and assistant principals; and

(d) "Parent" means:

1. A parent, stepparent, or foster parent of a student; or
2. A person who has legal custody of a student pursuant to a court order and with whom the student resides.

(2) Each local board of education shall adopt a policy for implementing school-based decision making in the district which shall include, but not be limited to, a description of how the district's policies, including those developed pursuant to KRS 160.340, have been amended to allow the professional staff members of a school to be involved in the decision making process as they work to meet educational goals established in KRS 158.645 and 158.6451. The policy may include a requirement that each school council make an annual report at a public meeting of the board describing the school's progress in meeting the educational goals set forth in KRS 158.6451 and district goals established by the board. The policy shall also address and comply with the following:

(a) Except as provided in paragraph (b)2. of this subsection, each participating school shall form a school council composed of two (2) parents, three (3) teachers, and the principal or administrator. The membership of the council may be increased, but it may only be increased proportionately. A parent representative on the council shall not be an employee or a relative of an employee of the school in which that parent serves, nor shall the parent representative be an employee or a relative of an employee in the district

administrative offices. A parent representative shall not be a local board member or a board member's spouse. None of the members shall have a conflict of interest pursuant to KRS Chapter 45A, except the salary paid to district employees;

- (b) 1. The teacher representatives shall be elected for one (1) year terms by a majority of the teachers. A teacher elected to a school council shall not be involuntarily transferred during his or her term of office. The parent representatives shall be elected for one (1) year terms. The parent members shall be elected by the parents of students preregistered to attend the school during the term of office in an election conducted by the parent and teacher organization of the school or, if none exists, the largest organization of parents formed for this purpose. A school council, once elected, may adopt a policy setting different terms of office for parent and teacher members subsequently elected. The principal shall be the chair of the school council.
2. School councils in schools having eight percent (8%) or more minority students enrolled, as determined by the enrollment on the preceding October 1, shall have at least one (1) minority member. If the council formed under paragraph (a) of this subsection does not have a minority member, the principal, in a timely manner, shall be responsible for carrying out the following:
  - a. Organizing a special election to elect an additional member. The principal shall call for nominations and shall notify the parents of the students of the date, time, and location of the election to elect a minority parent to the council by ballot; and
  - b. Allowing the teachers in the building to select one (1) minority teacher to serve as a teacher member on the council. If there are no

minority teachers who are members of the faculty, an additional teacher member shall be elected by a majority of all teachers. Term limitations shall not apply for a minority teacher member who is the only minority on faculty;

- (c) 1. The school council shall have the responsibility to set school policy consistent with district board policy which shall provide an environment to enhance the students' achievement and help the school meet the goals established by KRS 158.645 and 158.6451. The principal shall be the primary administrator and the instructional leader of the school, and with the assistance of the total school staff shall administer the policies established by the school council and the local board.
- 2. If a school council establishes committees, it shall adopt a policy to facilitate the participation of interested persons, including, but not limited to, classified employees and parents. The policy shall include the number of committees, their jurisdiction, composition, and the process for membership selection;
- (d) The school council and each of its committees shall determine the frequency of and agenda for their meetings. Matters relating to formation of school councils that are not provided for by this section shall be addressed by local board policy;
- (e) The meetings of the school council shall be open to the public and all interested persons may attend. However, the exceptions to open meetings provided in KRS 61.810 shall apply;
- (f) After receiving notification of the funds available for the school from the local board, the school council shall determine, within the parameters of the total available funds, the number of persons to be employed in each job classification at the school. The council may make personnel decisions on

vacancies occurring after the school council is formed but shall not have the authority to recommend transfers or dismissals;

- (g) The school council shall determine which textbooks, instructional materials, and student support services shall be provided in the school. Subject to available resources, the local board shall allocate an appropriation to each school that is adequate to meet the school's needs related to instructional materials and school-based student support services, as determined by the school council. The school council shall consult with the school media librarian on the maintenance of the school library media center, including the purchase of instructional materials, information technology, and equipment;
- (h) Personnel decisions at the school level shall be as follows:
1. From a list of applicants submitted by the local superintendent, the principal at the participating school shall select personnel to fill vacancies, after consultation with the school council, consistent with subsection (2)(i)10. of this section. The superintendent may forward to the school council the names of qualified applicants who have pending certification from the Education Professional Standards Board based on recent completion of preparation requirements, out-of-state preparation, or alternative routes to certification pursuant to KRS 161.028 and 161.048. Requests for transfer shall conform to any employer-employee bargained contract which is in effect.
  2. If the vacancy to be filled is the position of principal, the school council shall select the new principal from among those persons recommended by the local superintendent, except as provided in subparagraph 4. of this paragraph. The superintendent shall provide additional applicants upon request when qualified applicants are available. The school council shall receive training in recruitment and interviewing techniques prior to

carrying out the process of selecting a principal. The council shall select the trainer to deliver the training.

3. Personnel decisions made at the school level under the authority of subparagraphs 1., 2., and 4. of this paragraph shall be binding on the superintendent who completes the hiring process.
  4. If the vacancy for the position of principal occurs in a school that has an index score that places it in the lowest one-third (1/3) of all schools below the assistance line and the school has completed a scholastic audit under KRS 158.6455 that includes findings of lack of effectiveness of the principal and school council, the superintendent shall appoint the principal after consulting with the school council.
  5. Applicants subsequently employed shall provide evidence that they are certified prior to assuming the duties of a position in accordance with KRS 161.020. The superintendent shall provide additional applicants upon request when qualified applicants are available;
- (i) The school council shall adopt a policy to be implemented by the principal in the following additional areas:
1. Determination of curriculum, including needs assessment, ~~and~~ curriculum development **and responsibilities under Section 2(7) of this Act**;
  2. Assignment of all instructional and noninstructional staff time;
  3. Assignment of students to classes and programs within the school;
  4. Determination of the schedule of the school day and week, subject to the beginning and ending times of the school day and school calendar year as established by the local board;
  5. Determination of use of school space during the school day;
  6. Planning and resolution of issues regarding instructional practices;

7. Selection and implementation of discipline and classroom management techniques as a part of a comprehensive school safety plan, including responsibilities of the student, parent, teacher, counselor, and principal;
  8. Selection of extracurricular programs and determination of policies relating to student participation based on academic qualifications and attendance requirements, program evaluation, and supervision;
  9. Procedures, consistent with local school board policy, for determining alignment with state standards, technology utilization, and program appraisal; and
  10. Procedures to assist the council with consultation in the selection of personnel by the principal, including, but not limited to, meetings, timelines, interviews, review of written applications, and review of references. Procedures shall address situations in which members of the council are not available for consultation; and
- (j) Each school council shall annually review data~~[on its students' performance]~~ as shown **on state and local student assessments and program assessments required under Section 2 of this Act**~~[by the Commonwealth Accountability Testing System]~~. The data shall include but not be limited to information on performance levels of all students tested, and information on the performance of students disaggregated by race, gender, disability, and participation in the federal free and reduced price lunch program. After completing the review of data, each school council, with the involvement of parents, faculty, and staff, shall develop and adopt a plan to ensure that each student makes progress toward meeting the goals set forth in KRS 158.645 and 158.6451(1)(b) by April 1 of each year and submit the plan to the superintendent and local board of education for review as described in KRS 160.340. The Kentucky Department of Education shall provide each school council the data needed to

complete the review required by this paragraph no later than November 1 of each year. If a school does not have a council, the review shall be completed by the principal with the involvement of parents, faculty, and staff.

- (3) The policies~~[policy]~~ adopted by the local board to implement school-based decision making shall also address the following:
- (a) School budget and administration, including: discretionary funds; activity and other school funds; funds for maintenance, supplies, and equipment; and procedures for authorizing reimbursement for training and other expenses;
  - (b) Assessment of individual student progress, including testing and reporting of student progress to students, parents, the school district, the community, and the state;
  - (c) School improvement plans, including the form and function of strategic planning and its relationship to district planning, as well as the school safety plan and requests for funding from the Center for School Safety under KRS 158.446;
  - (d) Professional development plans developed pursuant to KRS 156.095;
  - (e) Parent, citizen, and community participation including the relationship of the council with other groups;
  - (f) Cooperation and collaboration within the district, with other districts, and with other public and private agencies;
  - (g) Requirements for waiver of district policies;
  - (h) Requirements for record keeping by the school council; and
  - (i) A process for appealing a decision made by a school council.
- (4) In addition to the authority granted to the school council in this section, the local board may grant to the school council any other authority permitted by law. The board shall make available liability insurance coverage for the protection of all members of the school council from liability arising in the course of pursuing their

duties as members of the council.

- (5) After July 13, 1990, any school in which two-thirds (2/3) of the faculty vote to implement school-based decision making shall do so. All schools shall implement school-based decision making by July 1, 1996, in accordance with this section and with the policy adopted by the local board pursuant to this section. Upon favorable vote of a majority of the faculty at the school and a majority of at least twenty-five (25) voting parents of students enrolled in the school, a school meeting its goal as determined by the Department of Education pursuant to KRS 158.6455 may apply to the Kentucky Board of Education for exemption from the requirement to implement school-based decision making, and the state board shall grant the exemption. The voting by the parents on the matter of exemption from implementing school-based decision making shall be in an election conducted by the parent and teacher organization of the school or, if none exists, the largest organization of parents formed for this purpose. Notwithstanding the provisions of this section, a local school district shall not be required to implement school-based decision making if the local school district contains only one (1) school.
- (6) The Department of Education shall provide professional development activities to assist schools in implementing school-based decision making. School council members elected for the first time shall complete a minimum of six (6) clock hours of training in the process of school-based decision making, no later than thirty (30) days after the beginning of the service year for which they are elected to serve. School council members who have served on a school council at least one (1) year shall complete a minimum of three (3) clock hours of training in the process of school-based decision making no later than one hundred twenty (120) days after the beginning of the service year for which they are elected to serve. Experienced members may participate in the training for new members to fulfill their training requirement. School council training required under this subsection shall be

conducted by trainers endorsed by the Department of Education. By November 1 of each year, the principal through the local superintendent shall forward to the Department of Education the names and addresses of each council member and verify that the required training has been completed. School council members elected to fill a vacancy shall complete the applicable training within thirty (30) days of their election.

- (7) A school that chooses to have school-based decision making but would like to be exempt from the administrative structure set forth by this section may develop a model for implementing school-based decision making, including but not limited to a description of the membership, organization, duties, and responsibilities of a school council. The school shall submit the model through the local board of education to the commissioner of education and the Kentucky Board of Education, which shall have final authority for approval. The application for approval of the model shall show evidence that it has been developed by representatives of the parents, students, certified personnel, and the administrators of the school and that two-thirds (2/3) of the faculty have agreed to the model.
- (8) The Kentucky Board of Education, upon recommendation of the commissioner of education, shall adopt by administrative regulation a formula by which school district funds shall be allocated to each school council. Included in the school council formula shall be an allocation for professional development that is at least sixty-five percent (65%) of the district's per pupil state allocation for professional development for each student in average daily attendance in the school. The school council shall plan professional development in compliance with requirements specified in KRS 156.095, except as provided in KRS 158.649. School councils of small schools shall be encouraged to work with other school councils to maximize professional development opportunities.
- (9) (a) No board member, superintendent of schools, district employee, or member of

a school council shall intentionally engage in a pattern of practice which is detrimental to the successful implementation of or circumvents the intent of school-based decision making to allow the professional staff members of a school and parents to be involved in the decision making process in working toward meeting the educational goals established in KRS 158.645 and 158.6451 or to make decisions in areas of policy assigned to a school council pursuant to paragraph (i) of subsection (2) of this section.

- (b) An affected party who believes a violation of this subsection has occurred may file a written complaint with the Office of Education Accountability. The office shall investigate the complaint and resolve the conflict, if possible, or forward the matter to the Kentucky Board of Education.
  - (c) The Kentucky Board of Education shall conduct a hearing in accordance with KRS Chapter 13B for complaints referred by the Office of Education Accountability.
  - (d) If the state board determines a violation has occurred, the party shall be subject to reprimand. A second violation of this subsection may be grounds for removing a superintendent, a member of a school council, or school board member from office or grounds for dismissal of an employee for misconduct in office or willful neglect of duty.
- (10) Notwithstanding subsections (1) to (9) of this section, a school's right to establish or maintain a school-based decision making council and the powers, duties, and authority granted to a school council may be rescinded or the school council's role may be advisory if the commissioner of education or the Kentucky Board of Education takes action under KRS 160.346.
- (11) Each school council of a school containing grades K-5 or any combination thereof, or if there is no school council, the principal, shall develop and implement a wellness policy that includes moderate to vigorous physical activity each day and

encourages healthy choices among students. The policy may permit physical activity to be considered part of the instructional day, not to exceed thirty (30) minutes per day, or one hundred and fifty (150) minutes per week. Each school council, or if there is no school council, the principal, shall adopt an assessment tool to determine each child's level of physical activity on an annual basis. The council or principal may utilize an existing assessment program. The Kentucky Department of Education shall make available a list of available resources to carry out the provisions of this subsection. The department shall report to the Legislative Research Commission no later than November 1 of each year on how the schools are providing physical activity under this subsection and on the types of physical activity being provided. The policy developed by the school council or principal shall comply with provisions required by federal law, state law, or local board policy.

➔ Section 13. KRS 164.020 is amended to read as follows:

The Council on Postsecondary Education in Kentucky shall:

- (1) Develop and implement the strategic agenda with the advice and counsel of the Strategic Committee on Postsecondary Education. The council shall provide for and direct the planning process and subsequent strategic implementation plans based on the strategic agenda as provided in KRS 164.0203;
- (2) Revise the strategic agenda and strategic implementation plan with the advice and counsel of the committee as set forth in KRS 164.004;
- (3) Develop a system of public accountability related to the strategic agenda by evaluating the performance and effectiveness of the state's postsecondary system. The council shall prepare a report in conjunction with the accountability reporting described in KRS 164.095, which shall be submitted to the committee, the Governor, and the General Assembly by December 1 annually. This report shall include a description of contributions by postsecondary institutions to the quality of

- elementary and secondary education in the Commonwealth;
- (4) Review, revise, and approve the missions of the state's universities and the Kentucky Community and Technical College System. The Council on Postsecondary Education shall have the final authority to determine the compliance of postsecondary institutions with their academic, service, and research missions;
  - (5) Establish and ensure that all postsecondary institutions in Kentucky cooperatively provide for an integrated system of postsecondary education. The council shall guard against inappropriate and unnecessary conflict and duplication by promoting transferability of credits and easy access of information among institutions;
  - (6) Engage in analyses and research to determine the overall needs of postsecondary education and adult education in the Commonwealth;
  - (7) Develop plans that may be required by federal legislation. The council shall for all purposes of federal legislation relating to planning be considered the "single state agency" as that term may be used in federal legislation. When federal legislation requires additional representation on any "single state agency," the Council on Postsecondary Education shall establish advisory groups necessary to satisfy federal legislative or regulatory guidelines;
  - (8) Determine tuition and approve the minimum qualifications for admission to the state postsecondary educational system. In defining residency, the council shall classify a student as having Kentucky residency if the student met the residency requirements at the beginning of his or her last year in high school and enters a Kentucky postsecondary education institution within two (2) years of high school graduation. In determining the tuition for non-Kentucky residents, the council shall consider the fees required of Kentucky students by institutions in adjoining states, the resident fees charged by other states, the total actual per student cost of training in the institutions for which the fees are being determined, and the ratios of Kentucky students to non-Kentucky students comprising the enrollments of the

respective institutions, and other factors the council may in its sole discretion deem pertinent;

- (9) Devise, establish, and periodically review and revise policies to be used in making recommendations to the Governor for consideration in developing recommendations to the General Assembly for appropriations to the universities, the Kentucky Community and Technical College System, and to support strategies for persons to maintain necessary levels of literacy throughout their lifetimes including but not limited to appropriations to the Kentucky Adult Education Program. The council has sole discretion, with advice of the Strategic Committee on Postsecondary Education and the executive officers of the postsecondary education system, to devise policies that provide for allocation of funds among the universities and the Kentucky Community and Technical College System;
- (10) Lead and provide staff support for the biennial budget process as provided under KRS Chapter 48, in cooperation with the committee;
- (11)
  - (a) Except as provided in paragraph (b) of this subsection, review and approve all capital construction projects covered by KRS 45.750(1)(f), including real property acquisitions, and regardless of the source of funding for projects or acquisitions. Approval of capital projects and real property acquisitions shall be on a basis consistent with the strategic agenda and the mission of the respective universities and the Kentucky Community and Technical College System.
  - (b) The organized groups that are establishing community college satellites as branches of existing community colleges in the counties of Laurel, Leslie, and Muhlenberg, and that have substantially obtained cash, pledges, real property, or other commitments to build the satellite at no cost to the Commonwealth, other than operating costs that shall be paid as part of the operating budget of the main community college of which the satellite is a branch, are authorized

to begin construction of the satellite on or after January 1, 1998;

- (12) Require reports from the executive officer of each institution it deems necessary for the effectual performance of its duties;
- (13) Ensure that the state postsecondary system does not unnecessarily duplicate services and programs provided by private postsecondary institutions and shall promote maximum cooperation between the state postsecondary system and private postsecondary institutions. Receive and consider an annual report prepared by the Association of Independent Kentucky Colleges and Universities stating the condition of independent institutions, listing opportunities for more collaboration between the state and independent institutions and other information as appropriate;
- (14) Develop a university track program within the Kentucky Community and Technical College System consisting of sixty (60) hours of instruction that can be transferred and applied toward the requirements for a bachelor's degree at the public universities. The track shall consist of general education courses and pre-major courses as prescribed by the council. Courses in the university track program shall transfer and apply toward the requirements for graduation with a bachelor's degree at all public universities. Successful completion of the university track program shall meet the academic requirement for transfer to a public university as a junior. By fall semester of 1997, requirements for track programs shall be established for all majors and baccalaureate degree programs;
- (15) Define and approve the offering of all postsecondary education technical, associate, baccalaureate, graduate, and professional degree, certificate, or diploma programs in the public postsecondary education institutions. The council shall expedite wherever possible the approval of requests from the Kentucky Community and Technical College System board of regents relating to new certificate, diploma, technical, or associate degree programs of a vocational-technical and occupational nature. Without the consent of the General Assembly, the council shall not abolish or limit

the total enrollment of the general program offered at any community college to meet the goal of reasonable access throughout the Commonwealth to a two (2) year course of general studies designed for transfer to a baccalaureate program. This does not restrict or limit the authority of the council, as set forth in this section, to eliminate or make changes in individual programs within that general program;

- (16) Eliminate, in its discretion, existing programs or make any changes in existing academic programs at the state's postsecondary educational institutions, taking into consideration these criteria:
- (a) Consistency with the institution's mission and the strategic agenda;
  - (b) Alignment with the priorities in the strategic implementation plan for achieving the strategic agenda;
  - (c) Elimination of unnecessary duplication of programs within and among institutions; and
  - (d) Efforts to create cooperative programs with other institutions through traditional means, or by use of distance learning technology and electronic resources, to achieve effective and efficient program delivery;
- (17) Ensure the governing board and faculty of all postsecondary education institutions are committed to providing instruction free of discrimination against students who hold political views and opinions contrary to those of the governing board and faculty;
- (18) Review proposals and make recommendations to the Governor regarding the establishment of new public community colleges, technical institutions, and new four (4) year colleges;
- (19) Postpone the approval of any new program at a state postsecondary educational institution, unless the institution has met its equal educational opportunity goals, as established by the council. In accordance with administrative regulations promulgated by the council, those institutions not meeting the goals shall be able to

- obtain a temporary waiver, if the institution has made substantial progress toward meeting its equal educational opportunity goals;
- (20) Ensure the coordination, transferability, and connectivity of technology among postsecondary institutions in the Commonwealth including the development and implementation of a technology plan as a component of the strategic agenda;
- (21) Approve the teacher education programs in the public institutions that comply with standards established by the Education Professional Standards Board pursuant to KRS 161.028;
- (22) Constitute the representative agency of the Commonwealth in all matters of postsecondary education of a general and statewide nature which are not otherwise delegated to one (1) or more institutions of postsecondary learning. The responsibility may be exercised through appropriate contractual relationships with individuals or agencies located within or without the Commonwealth. The authority includes but is not limited to contractual arrangements for programs of research, specialized training, and cultural enrichment;
- (23) Maintain procedures for the approval of a designated receiver to provide for the maintenance of student records of the public institutions of higher education and the colleges as defined in KRS 164.945, and institutions operating pursuant to KRS 165A.310 which offer collegiate level courses for academic credit, which cease to operate. Procedures shall include assurances that, upon proper request, subject to federal and state laws and regulations, copies of student records shall be made available within a reasonable length of time for a minimum fee;
- (24) Monitor and transmit a report on compliance with KRS 164.351 to the director of the Legislative Research Commission for distribution to the Health and Welfare Committee;
- (25) Develop in cooperation with each state postsecondary educational institution a comprehensive orientation program for new members of the council and the

governing boards. The orientation program shall include but not be limited to the information concerning the roles of the council, the strategic agenda and the strategic implementation plan, and the respective institution's mission, budget, plans, policies, strengths, and weaknesses;

- (26) Develop a financial reporting procedure to be used by all state postsecondary education institutions to ensure uniformity of financial information available to state agencies and the public;
- (27) Select and appoint a president of the council under KRS 164.013;
- (28) Employ consultants and other persons and employees as may be required for the council's operations, functions, and responsibilities;
- (29) Promulgate administrative regulations, in accordance with KRS Chapter 13A, governing its powers, duties, and responsibilities as described in this section;
- (30) Prepare and present by January 31 of each year an annual status report on postsecondary education in the Commonwealth to the Governor, the Strategic Committee on Postsecondary Education, and the Legislative Research Commission;
- (31) Consider the role, function, and capacity of independent institutions of postsecondary education in developing policies to meet the immediate and future needs of the state. When it is found that independent institutions can meet state needs effectively, state resources may be used to contract with or otherwise assist independent institutions in meeting these needs;
- (32) Create advisory groups representing the presidents, faculty, nonteaching staff, and students of the public postsecondary education system and the independent colleges and universities;
- (33) Develop a statewide policy to promote employee and faculty development in all postsecondary institutions and in state and locally operated secondary area technology centers through the waiver of tuition for college credit coursework in the public postsecondary education system. Any regular full-time employee of a

postsecondary public institution or a state or locally operated secondary area technology center may, with prior administrative approval of the course offering institution, take a maximum of six (6) credit hours per term at any public postsecondary institution. The institution shall waive the tuition up to a maximum of six (6) credit hours per term;

(34) Establish a statewide mission for adult education and develop a twenty (20) year strategy, in partnership with the Kentucky Adult Education Program, under the provisions of KRS 164.0203 for raising the knowledge and skills of the state's adult population. The council shall:

- (a) Promote coordination of programs and responsibilities linked to the issue of adult education with the Kentucky Adult Education Program and with other agencies and institutions;
- (b) Facilitate the development of strategies to increase the knowledge and skills of adults in all counties by promoting the efficient and effective coordination of all available education and training resources;
- (c) Lead a statewide public information and marketing campaign to convey the critical nature of Kentucky's adult literacy challenge and to reach adults and employers with practical information about available education and training opportunities;
- (d) Establish standards for adult literacy and monitor progress in achieving the state's adult literacy goals, including existing standards that may have been developed to meet requirements of federal law in conjunction with the Collaborative Center for Literacy Development: Early Childhood through Adulthood; and
- (e) Administer the adult education and literacy initiative fund created under KRS 164.041; ~~and~~

(35) **(a) Participate with the Kentucky Department of Education, the Kentucky**

*Board of Education, and postsecondary education institutions to assure that academic content requirements for successful entry into postsecondary education programs are aligned with high school content standards and that students who master the high school academic content standards shall not need remedial courses. The council shall monitor the results on an ongoing basis; and*

*(b) Cooperate with the Kentucky Department of Education and the Education Professional Standards Board in providing information sessions to selected postsecondary education content faculty and teacher educators of the high school academic content standards as required under subsection (2)(j) of Section 2 of this Act; and*

**(36)** Exercise any other powers, duties, and responsibilities necessary to carry out the purposes of this chapter. Nothing in this chapter shall be construed to grant the Council on Postsecondary Education authority to disestablish or eliminate any college of law which became a part of the state system of higher education through merger with a state college.

➔ Section 14. KRS 164.7874 is amended to read as follows:

As used in KRS 164.7871 to 164.7885:

- (1) "Academic term" means a semester or other time period specified in an administrative regulation promulgated by the authority;
- (2) "Academic year" means a period consisting of at least the minimum school term, as defined in KRS 158.070;
- (3) "ACT score" means the composite score achieved on the American College Test at a national test site on a national test date or the ACT exam administered statewide under KRS 158.6453 ~~(12)~~~~(4)~~(a)3., or an equivalent score, as determined by the authority, on the SAT administered by the College Board, Inc.;
- (4) "Authority" means the Kentucky Higher Education Assistance Authority;

- (5) "Award period" means the fall and spring consecutive academic terms within one  
(1) academic year;
- (6) "Council" means the Council on Postsecondary Education created under KRS  
164.011;
- (7) "Eligible high school student" means any person who:
- (a) Is a citizen, national, or permanent resident of the United States and Kentucky  
resident;
  - (b) Was enrolled after July 1, 1998:
    - 1. In a Kentucky high school for at least one hundred forty (140) days of  
the minimum school term unless exempted by the authority's executive  
director upon documentation of extreme hardship, while meeting the  
KEES curriculum requirements, and was enrolled in a Kentucky high  
school at the end of the academic year;
    - 2. In a Kentucky high school for the fall academic term of the senior year  
and who:
      - a. Was enrolled during the entire academic term;
      - b. Completed the high school's graduation requirements during the  
fall academic term; and
      - c. Was not enrolled in a secondary school during any other academic  
term of that academic year; or
    - 3. In the Gatton Academy of Mathematics and Science in Kentucky while  
meeting the Kentucky educational excellence scholarship curriculum  
requirements;
  - (c) Has a grade point average of 2.5 or above at the end of any academic year  
beginning after July 1, 1998, or at the end of the fall academic term for a  
student eligible under paragraph (b) 2. of this subsection; and
  - (d) Is not a convicted felon;

- (8) "Eligible postsecondary student" means a citizen, national, or permanent resident of the United States and Kentucky resident, as determined by the participating institution in accordance with criteria established by the council for the purposes of admission and tuition assessment, who:
- (a) Earned a KEES award;
  - (b) Has the required postsecondary GPA and credit hours required under KRS 164.7881;
  - (c) Has remaining semesters of eligibility under KRS 164.7881;
  - (d) Is enrolled in a participating institution as a part-time or full-time student; and
  - (e) Is not a convicted felon;
- (9) "Full-time student" means a student enrolled in a postsecondary program of study that meets the full-time student requirements of the participating institution in which the student is enrolled;
- (10) "Grade point average" or "GPA" means the grade point average earned by an eligible student and reported by the high school or participating institution in which the student was enrolled based on a scale of 4.0 or its equivalent if the high school or participating institution that the student attends does not use the 4.0 grade scale;
- (11) "High school" means any Kentucky public high school, the Gatton Academy of Mathematics and Science in Kentucky, and any private, parochial, or church school located in Kentucky that has been certified by the Kentucky Board of Education as voluntarily complying with curriculum, certification, and textbook standards established by the Kentucky Board of Education under KRS 156.160;
- (12) "KEES" or "Kentucky educational excellence scholarship" means a scholarship provided under KRS 164.7871 to 164.7885;
- (13) "KEES award" means:
- (a) For an eligible high school student, the sum of the KEES base amount for each academic year of high school plus any KEES supplemental amount, as

adjusted pursuant to KRS 164.7881; and

- (b) For a student eligible under KRS 164.7879(3)(d), the KEES supplemental amount as adjusted pursuant to KRS 164.7881;
- (14) "KEES award maximum" means the sum of the KEES base amount earned in each academic year of high school plus any KEES supplemental amount earned;
- (15) "KEES base amount" or "base amount" means the amount earned by an eligible high school student based on the student's GPA pursuant to KRS 164.7879;
- (16) "KEES curriculum" means five (5) courses of study, except for students who meet the criteria of subsection (7)(b)2. of this section, in an academic year as determined in accordance with an administrative regulation promulgated by the authority;
- (17) "KEES supplemental amount" means the amount earned by an eligible student based on the student's ACT score pursuant to KRS 164.7879;
- (18) "KEES trust fund" means the Wallace G. Wilkinson Kentucky educational excellence scholarship trust fund;
- (19) "On track to graduate" means the number of cumulative credit hours earned as compared to the number of hours determined by the postsecondary education institution as necessary to complete a bachelor's degree by the end of eight (8) academic terms or ten (10) academic terms if a student is enrolled in an undergraduate program that requires five (5) years of study;
- (20) "Participating institution" means an "institution" as defined in KRS 164.001 that actively participates in the federal Pell Grant program, executes a contract with the authority on terms the authority deems necessary or appropriate for the administration of its programs, and:
- (a) 1. Is publicly operated;
2. Is licensed by the Commonwealth of Kentucky and has operated for at least ten (10) years, offers an associate or baccalaureate degree program of study not comprised solely of sectarian instruction, and admits as

regular students only high school graduates or recipients of a General Educational Development (GED) diploma or students transferring from another accredited degree granting institution; or

3. Is designated by the authority as an approved out-of-state institution that offers a degree program in a field of study that is not offered at any institution in the Commonwealth; and

(b) Continues to commit financial resources to student financial assistance programs; and

- (21) "Part-time student" means a student enrolled in a postsecondary program of study who does not meet the full-time student requirements of the participating institution in which the student is enrolled and who is enrolled for at least six (6) credit hours, or the equivalent for an institution that does not use credit hours.

➔ SECTION 15. A NEW SECTION OF KRS CHAPTER 164 IS CREATED TO READ AS FOLLOWS:

**(1) Within thirty (30) days from the effective date of this Act, each postsecondary education institution shall plan and implement a process to develop core academic content standards for reading and mathematics for introductory courses in the public postsecondary education institutions.**

**(2) The process shall ensure that secondary educators are engaged with the postsecondary education faculty and other content specialists in order that the standards at each educational level are vertically aligned.**

**(3) The Council on Postsecondary Education, the Department of Education, and the postsecondary education institutions are urged to merge activities, resources, and dissemination efforts as is practical to eliminate duplication of effort and conflicting recommendations.**

**(4) All core academic standards for mathematics and reading in introductory courses shall be completed by December 15, 2010 with a target completion date of**

**December 15, 2009 for the mathematics standards.**

➔ Section 16. Whereas writing is an essential skill for all public school students to master; and whereas the 2009-2010 and 2010-2011 school years will be a transitional period for revising the content standards in all academic content areas and subsequently revising the state assessment and accountability system, writing portfolios shall remain a required and important instructional tool, but shall not be included in the accountability index as stated in Section 2.(11)(c) of this Act, during the 2008-2009, 2009-2010, and 2010-2011 school years.

(1) During this transitional period, each school-based decision making council, or if there is no school council, a committee appointed by the principal, shall determine its writing program and shall develop policies relating to the use of portfolios, using Section 2.(7)(c)5. of this Act as a guide.

(2) Once the Kentucky Department of Education provides the guidelines and program review requirements for implementation of program reviews of writing in the 2011-2012, each school shall comply with all requirements in Section 2.(11)(c) of this Act, based on time requirements established by the department.

➔ Section 17. Whereas, the quality of writing instruction is directly related to how well teachers are prepared in their teacher preparation programs and how confident they are in the writing process; and whereas, some teachers have expressed tentativeness and discomfort in teaching writing to their students, the Education Professional Standards Board and the Kentucky Department of Education shall take actions during the 2009 and 2010 calendar years to improve instruction at the pre-service levels and to improve the ability to teach writing to existing teachers. At a minimum the following shall be completed:

(1) Using results from the state assessments relating to writing, including previous results of audits of writing portfolios, the Kentucky Department of Education and appropriate partners shall identify any major weaknesses that may be attributed to the

quality of writing instruction and consider where and how these skills should best be taught to teachers;

(2) The Education Professional Standards Board shall conduct an analysis of the current requirements at the pre-service level for writing instruction and determine how writing instruction for prospective teachers can be enhanced or improved;

(3) The Education Professional Standards Board shall consider the feasibility of requiring a course in teacher preparation programs in the teaching of writing for pre-service teachers or teachers pursuing Rank II certification;

(4) The Kentucky Department of Education shall review the availability of professional development opportunities to help teachers learn how to improve writing instruction, and to use available resources, including the continuance of writing academies and writing workshops, to ensure that training for developing and evaluating high-quality writing portfolios and writing persuasive letters and articles, as well as poetry, short stories, memoirs, and personal narratives is available to existing teachers; and

(5) The Kentucky Department of Education shall provide training to administrators to help them provide leadership and support for an effective writing program within their schools.

➔Section 18. Whereas it is imperative that schools, administrators, teachers, parents, and policymakers maintain high expectations for Kentucky's students, and it is important that there be an orderly transition from the state assessment utilized on the effective date of this Act to the new assessment and accountability system is implemented in 2011-2012 so as to relieve teachers, schools, and administrators of unnecessary work, costs, and professional burdens, the following conditions shall apply:

(1) The Kentucky Board of Education shall provide for an interim assessment process as described in Section 19 of this Act;

(2) The board shall ensure that all student assessments and data collection and

reporting necessary to meet the accountability and proficiency requirements for the federal No Child Left Behind Act (NCLB) are met;

(3) The board shall suspend the calculation of a state accountability index for 2008-2009, 2009-2010, and 2010-2011, but shall ensure that all federal accountability requirements are met;

(4) During the interim period the following shall apply for accountability purposes:

(a) Annual Yearly Progress results from the federal government's No Child Left Behind system shall be used to determine improvement of student achievement for both Title 1 and non-Title 1 schools;

(b) The federal definitions within the No Child Left Behind Act shall be applied to both Title 1 and non-Title 1 schools;

(c) State level assistance and resources shall be provided to Title 1 and non-Title 1 schools falling into the federal definitions of consequences in order to help schools improve student achievement; and

(d) Results of the interim tests shall be reported publicly.

(5) Notwithstanding the provisions of Section 19 of this Act, the board may use mathematics items developed using revised mathematics content standards during the spring of 2010 and administer an initial mathematics test, based on the revised standards during the 2010-2011 testing period to meet NCLB requirements, if approval is granted by the United States Department of Education;

(6) The Kentucky Department of Education shall develop and implement interim program assessments of writing programs, practical living skills and career studies, and arts and humanities in all schools during the transition period. The department shall finalize the process for program assessments for implementation during the 2011-2012 school year as required in Section 2 of this Act;

(7) The department and board shall ensure that teachers, administrators, and local

board of education members are well informed of pending changes in the assessment and accountability system during the transition period and continue to stress the importance of the quality of opportunities for all Kentucky students; and

(8) The board shall take whatever steps necessary to provide for implementation of the revised system.

→Section 19. (1) Prior to the development and implementation of a new state assessment system for 2011-2012, the Kentucky Board of Education and the Kentucky Department of Education shall provide for a systematic interim process that will lead to a new state student assessment program. The system will continue to include the high school readiness examination in grade eight (8), the college readiness examination in grade ten (10), and the ACT examination in grade eleven (11) as described in Section 2. of this Act.

(2) The current Kentucky criterion-referenced test, which meets the requirements of the federal No Child Left Behind Act, excluding tests for arts and humanities, practical living skills and career studies, and writing portfolios, shall continue to be given for the same subjects in the same grades in the 2008-2009, 2009-2010, and 2010-2011 academic years until the new assessment program is implemented in the 2011-2012 academic year. During the 2009-2010 and 2010-2011 academic years the department shall reduce the length of the test by reviewing and eliminating unneeded test items.

(3) During the 2009-2010 and the 2010-2011 academic years, in addition to the Kentucky criterion-referenced test, there shall be a new stand-alone norm-referenced test in reading and mathematics in grades three (3) through seven (7). The test shall be valid and reliable at the individual student level.

(4) The Kentucky Board of Education shall promulgate administrative regulations outlining the procedures to be used during the interim testing process to ensure test security, including procedures for testing makeup days, and to comply with federal assessment requirements. During the interim, the testing window for the criterion-

referenced test may be up to seven (7) days in 2008-2009 and up to six (6) days during the 2009-2010 and 2010-2011 school years with additional makeup days as determined by the state board.

(5) In the 2008-2009 academic year the Department of Education shall provide each district with a test booklet and scoring sheets for arts and humanities, practical living skills and career studies that may be used by a local district for a local formative or summative evaluation.

(6) During the 2009-2010 and the 2010-2011 academic years, the new stand-alone norm-referenced test in reading and mathematics in grades three (3) through seven (7) shall be given during the one (1) week before or the one (1) week after the established testing window.

➔Section 20. As the Kentucky Department of Education and Kentucky Board of Education carry out their roles in the revisions to the state assessment and accountability system for implementation in 2011-2012, they shall facilitate an extensive review of how exceptional children's needs are being met through the required student assessment process and how student assessment requirements for exceptional children potentially hamper or enhance intellectual and emotional growth of individual students. They shall assess how current assessment procedures for exceptional children and the reporting requirements affect school performance classifications and whether changes need to be made as the revised assessment and accountability system is developed.

➔Section 21. Whereas, the General Assembly finds the continuing high rates of high school students who require remediation at the postsecondary education level totally unacceptable and an unwarranted additional expense to the state, students, and parents who expect that completion of high school coursework should lead to successful entry and success in postsecondary education, the Council on Postsecondary Education, the Kentucky Board of Education and the Kentucky Department of Education are hereby directed to develop a unified strategy to reduce college remediation rates by at least fifty

percent (50%) by 2014 from what they are in 2010 and increase the college completion rates of students enrolled in one (1) or more remedial classes by three percent (3%) annually from 2009 to 2014.

(1) A written plan to reduce the remediation rates and increase graduation rates shall be prepared no later than May 15, 2010. The written plan shall include:

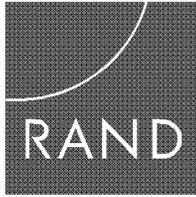
- (a) Yearly goals;
- (b) Action strategies that will be used;
- (c) Timelines;
- (d) Assigned responsibilities for carrying out the strategies;
- (e) Reporting mechanisms.

(2) During the preparation of the plan, the agencies shall investigate whether the current requirements for assessing college readiness are providing needed information, whether additional diagnostic assessments are needed, particularly in mathematics at the high school level, and whether accelerated learning programs have actually been implemented as required by Section 6. of this Act to address students' needs for instructional interventions in English, reading, and mathematics.

(3) The council, the department, and board shall present the initial plan to the Interim Joint Committee on Education and the Interim Joint Committee on Appropriations and Revenue during the 2010 Interim. Thereafter they shall report annually the results of their efforts. When appropriate, the annual reports to the Interim committees shall include recommendations for legislative actions.

→Section 22. Notwithstanding any statutory provisions to the contrary, the Kentucky Department of Education shall communicate to districts and schools that decisions about mathematics textbook purchases may be delayed until after the mathematics academic standards have been revised as required by Section 2 of this Act. The department shall allow off-list purchases in order to ensure that textbooks selected align with the revised mathematics academic standards.

→ Section 23. Whereas, the revision of academic content standards is a time-consuming, complex process, and the Kentucky Department of Education needs to initiate the process quickly, an emergency is declared to exist, and this Act takes effect upon its passage and approval by the Governor or upon its otherwise becoming a law.



## EDUCATION

THE ARTS  
CHILD POLICY  
CIVIL JUSTICE  
EDUCATION  
ENERGY AND ENVIRONMENT  
HEALTH AND HEALTH CARE  
INTERNATIONAL AFFAIRS  
NATIONAL SECURITY  
POPULATION AND AGING  
PUBLIC SAFETY  
SCIENCE AND TECHNOLOGY  
SUBSTANCE ABUSE  
TERRORISM AND  
HOMELAND SECURITY  
TRANSPORTATION AND  
INFRASTRUCTURE  
WORKFORCE AND WORKPLACE

This PDF document was made available from [www.rand.org](http://www.rand.org) as a public service of the RAND Corporation.

[Jump down to document](#) ▼

The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world.

### Support RAND

[Purchase this document](#)

[Browse Books & Publications](#)

[Make a charitable contribution](#)

### For More Information

Visit RAND at [www.rand.org](http://www.rand.org)

Explore [RAND Education](#)

View [document details](#)

### Limited Electronic Distribution Rights

This document and trademark(s) contained herein are protected by law as indicated in a notice appearing later in this work. This electronic representation of RAND intellectual property is provided for non-commercial use only. Unauthorized posting of RAND PDFs to a non-RAND Web site is prohibited. RAND PDFs are protected under copyright law. Permission is required from RAND to reproduce, or reuse in another form, any of our research documents for commercial use. For information on reprint and linking permissions, please see [RAND Permissions](#).

This product is part of the RAND Corporation monograph series. RAND monographs present major research findings that address the challenges facing the public and private sectors. All RAND monographs undergo rigorous peer review to ensure high standards for research quality and objectivity.

# Improving School Leadership

## The Promise of Cohesive Leadership Systems

---

Catherine H. Augustine • Gabriella Gonzalez • Gina Schuyler Ikemoto • Jennifer Russell  
Gail L. Zellman • Louay Constant • Jane Armstrong • Jacob W. Dembosky

Commissioned by



The research in this report was produced within RAND Education, a division of the RAND Corporation, and was commissioned by The Wallace Foundation.

**Library of Congress Cataloging-in-Publication Data**

Improving school leadership : the promise of cohesive leadership systems / Catherine H.

Augustine ... [et al.].

p. cm.

“This study was conducted by RAND Education”—Pref.

Includes bibliographical references.

ISBN 978-0-8330-4891-2 (pbk. : alk. paper)

1. Educational leadership—United States. 2. School management and organization—United States. 3. Educational change—United States. 4. School principals—United States. 5. Public schools—United States. 6. Education and state—United States. I. Augustine, Catherine H., 1968– II. Rand Education (Institute)

LB2805.L4367 2010

371.200973—dc22

2009045738

The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world. RAND’s publications do not necessarily reflect the opinions of its research clients and sponsors.

**RAND®** is a registered trademark.

© Copyright 2009 RAND Corporation

Permission is given to duplicate this document for personal use only, as long as it is unaltered and complete. Copies may not be duplicated for commercial purposes. Unauthorized posting of RAND documents to a non-RAND Web site is prohibited. RAND documents are protected under copyright law. For information on reprint and linking permissions, please visit the RAND permissions page (<http://www.rand.org/publications/permissions.html>).

Published 2009 by the RAND Corporation

1776 Main Street, P.O. Box 2138, Santa Monica, CA 90407-2138

1200 South Hayes Street, Arlington, VA 22202-5050

4570 Fifth Avenue, Suite 600, Pittsburgh, PA 15213-2665

RAND URL: <http://www.rand.org>

To order RAND documents or to obtain additional information, contact

Distribution Services: Telephone: (310) 451-7002;

Fax: (310) 451-6915; Email: [order@rand.org](mailto:order@rand.org)

## Preface

---

Recent research has identified the importance of school leadership in improving outcomes for schools and their students. For the past nine years, The Wallace Foundation has been providing funding and technical assistance to state and district grantees to help them work together to create a “cohesive leadership system” of policies and initiatives to improve educational leadership. The Foundation commissioned the RAND Corporation to document what its grantees have done with this support, to describe the strategies they have used to develop cohesive systems, and to examine the theory that more-cohesive systems improve school leadership.

This monograph is intended primarily for those who are concerned with improving school leadership, including state education agencies, chief state school officers, professional standards boards, postsecondary education governing bodies, professional associations, and leaders of public schools and districts. It may also be of interest to other policymakers and practitioners who wish to strengthen the collaboration between state and district education officials to improve public education.

This study was conducted by RAND Education, a unit of the RAND Corporation. The work was supported by The Wallace Foundation, which for two decades has been dedicated to enabling institutions to expand learning and enrichment opportunities for all people. The Foundation carries out its mission by funding the development and testing of new ideas, capturing and sharing lessons from these endeavors, and commissioning related independent research. It currently works chiefly in three areas: strengthening education leadership to improve student achievement, enhancing out-of-school-time learning opportunities, and building appreciation of and demand for the arts.



# Contents

---

<b>Preface</b> .....	iii
<b>Figures</b> .....	ix
<b>Tables</b> .....	xi
<b>Summary</b> .....	xv
<b>Acknowledgments</b> .....	xxv
<b>Abbreviations</b> .....	xxvii
CHAPTER ONE	
<b>Introduction</b> .....	1
The Cohesive Leadership System Hypothesis .....	3
Research Relevant to Cohesive Leadership Systems .....	6
Objectives of This Study .....	7
Organization of This Monograph .....	8
Caveats .....	9
CHAPTER TWO	
<b>Data Sources and Analytic Approach</b> .....	11
Study Site Selection .....	11
Data Sources .....	14
Interviews .....	14
Survey .....	16
End-of-Day Logs .....	17
Analytic Approach .....	18
What Policies and Initiatives Have States and Districts Pursued to Improve School Leadership? .....	18
How Are Districts and States Interacting to Improve School Leadership? .....	18
To What Extent Have CLS Sites Built Cohesion Among Policies and Initiatives? .....	19
How Have Sites Built CLSs and Why Have Some Sites Been More Effective Than Others? .....	20
How Are Sites Attempting to Scale Up and Sustain Their Work? .....	20
Do We Find Support for the CLS Hypothesis? .....	20

CHAPTER THREE

<b>Policies and Initiatives Taken to Improve Leadership</b> .....	23
Types of Policies and Initiatives .....	23
Standards .....	23
Pre-Service and Recruitment .....	24
Licensure .....	26
Evaluation .....	27
In-Service Professional Development .....	28
Improving Conditions .....	29
Comparison of Policies and Initiatives Across Sites .....	31
Focus of Policies and Initiatives .....	31
Scope of Policies and Initiatives .....	31
Stage of the Initiative .....	33
Challenge to the Status Quo .....	33
Conclusions .....	34

CHAPTER FOUR

<b>Variations in State and District Roles in Improving School Leadership</b> .....	35
Districts as Leaders .....	35
States as Leaders .....	37
States Promoting District Initiatives .....	39
Conclusions .....	40

CHAPTER FIVE

<b>Building Cohesion Across Policies and Initiatives</b> .....	43
Dimensions of Cohesion .....	43
Variation in Implementing Cohesive Leadership Systems .....	45
Comprehensive Leadership Policies and Initiatives .....	46
Alignment of Policies and Practices Within and Across Levels .....	48
Engagement of Stakeholders .....	50
Stakeholder Agreement .....	51
Coordination .....	51
Conclusions .....	53

CHAPTER SIX

<b>Effective Strategies for System-Building</b> .....	57
Growing Importance of the State .....	57
Strategies Pursued to Develop Cohesive Leadership Systems .....	58
Building Trust .....	58
Creating Formal and Informal Networks .....	59
Fostering Communications .....	61
Exerting Pressure and Influence .....	62

Promoting Improved Quality of Leadership Policies and Initiatives .....	63
Building Capacity for the Work.....	64
Identifying Strong Individuals with Political and Social Capital to Lead the Work .....	64
Connecting with Other Reform Efforts.....	64
Differences in Strategies Across Sites .....	65
Employing a Broad Range of Approaches with Wider Reach.....	65
Strategic Communications .....	66
Combining Pressure and Support.....	66
Contextual Factors Enabling and Inhibiting Efforts to Build a CLS.....	67
Enabling Factors .....	68
Inhibiting Factors.....	70
Contextual Differences Across Sites .....	71
Conclusions .....	72
<b>CHAPTER SEVEN</b>	
<b>Prospects for Sustainability</b> .....	75
Challenges to Sustainment and Expansion .....	75
Strategies for Sustainment and Growth .....	77
Conclusions .....	78
<b>CHAPTER EIGHT</b>	
<b>Support for the CLS Hypothesis</b> .....	79
Conditions .....	81
Instructional Leadership Practices.....	84
Links Between Favorable Conditions and Engagement with Instructional Leadership Practices.....	87
Conclusions .....	88
<b>CHAPTER NINE</b>	
<b>Recommendations</b> .....	89
Early Steps .....	89
Consider Local Contexts and Address the Challenges They Pose .....	89
Identify Strong Lead Organizations and Individuals .....	90
Capitalize on External Expertise and Funding.....	90
Implementation Phase.....	91
Build Trust and Mend Fences.....	91
Engage a Broad Coalition of Stakeholders.....	91
Hone Skills at Applying Pressure While Providing Support .....	92
Recognize Innovative Districts as “Lead Learners”.....	92
Connect Leadership Efforts to Standards and to Other Reforms in the State .....	92
Evaluation, Sustainment, and Expansion .....	92
Solidify Programs and Funding Through Legislation and Regulations.....	92

Engage in Continuous Learning and Improvement .....	92
Commit to Engaging in the Work over the Long Term .....	93

APPENDIX

<b>A. Background Information on Study States and Districts .....</b>	<b>95</b>
<b>B. Indicators of Leadership Policy Initiatives, Factors of Cohesion, Conditions, and Effective Leadership Practices .....</b>	<b>103</b>
<b>C. Principal Survey Technical Notes .....</b>	<b>109</b>
<b>D. Principal End-of-Day-Log Technical Notes .....</b>	<b>113</b>
<b>E. Index Construction for the Analyses in Chapter Eight .....</b>	<b>115</b>
<b>F. Methodology and Elaborated Results for Analyses in Chapter Eight .....</b>	<b>119</b>
<b>References .....</b>	<b>145</b>

## Figures

---

1.1.	The Wallace Foundation's Working Hypothesis of a CLS .....	5
8.1.	Mean Responses of Conditions for Principals in CLS Sites .....	82



## Tables

---

2.1.	Sites Selected for the Study by Wallace Classification .....	12
2.2.	Wallace Education Leadership Grants for Study Sites .....	13
2.3.	Total Number of Interviews by State and Role .....	16
2.4.	Research Questions and Primary Data Sources.....	18
3.1.	Differences Among District and State Policies and Initiatives to Improve Leadership .....	32
5.1.	Site Variation in CLS Development and Implementation .....	53
8.1.	CLS Principals' Responses on Time Spent and Appropriateness of Time Spent on Instructional Leadership Practices.....	85
A.1.	Demographic Portrait of Study Sites in 2007 .....	96
A.2.	Study Districts' AYP Status (2004–2008).....	99
A.3.	2007 NAEP Scale Scores for 4th and 8th Grade Math and Reading.....	100
A.4.	Change in Average Scale Scores from 2003 to 2007 .....	100
C.1.	Principal Survey Response Rates by District .....	110
C.2.	Differences in School Characteristics Between the Population and Sample of Responding Principals .....	111
D.1.	Response Rates for End-of-Day Logs.....	114
E.1.	Indices for Conditions, Associated Items, Scale, and Alphas.....	116
E.2.	Indices for Instructional Leadership Practices, Associated Items, and Alphas .....	117
F.1.	Analysis Data Sources.....	120
F.2.	Difference Between Principals' Responses in CLS and Non-CLS Sites on Data.....	122
F.3.	Difference Between Principals' Responses in CLS and Non-CLS Sites on Resources.....	122
F.4.	Difference Between Principals' Responses in CLS and Non-CLS Sites on Aligned Governance.....	123
F.5.	Difference Between Principals' Responses in CLS and Non-CLS Sites on Conflicting Policies .....	123
F.6.	Difference Between Principals' Responses in CLS and Non-CLS Sites on Quality of District Tools, PD, and Evaluation.....	124

F.7.	Difference Between Principals' Responses in CLS and Non-CLS Sites on District-Provision-of-Assistance-with-Administration Item .....	124
F.8.	Difference Between Principals' Responses in CLS and Non-CLS Sites on Sufficient-and-Qualified-Leadership-Staff Item .....	125
F.9.	Difference Between Principals' Responses in CLS and Non-CLS Sites on Autonomy .....	125
F.10.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Time Spent Building a Common Vision .....	126
F.11.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of Time Spent Building a Common Vision .....	126
F.12.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Time Spent on School Improvement Efforts .....	127
F.13.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of Time Spent on School Improvement Efforts .....	127
F.14.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Time Spent Creating a Supportive Learning Environment for Students .....	128
F.15.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of Time Spent Creating a Supportive Learning Environment for Students .....	128
F.16.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Time Spent Motivating Students .....	129
F.17.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of Time Spent Motivating Students .....	129
F.18.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Time Spent Monitoring Classroom Instruction .....	130
F.19.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of Time Spent Monitoring Classroom Instruction .....	130
F.20.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Time Spent Engaging Teachers Outside of the Classroom .....	131
F.21.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of Time Spent Engaging Teachers Outside of the Classroom .....	131
F.22.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Time Spent Promoting Staff PD .....	132
F.23.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of Time Spent Promoting Staff PD .....	132
F.24.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Time Spent Motivating Staff .....	133
F.25.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of Time Spent Motivating Staff .....	133
F.26.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Time Spent Fostering Leadership Among Staff .....	134
F.27.	Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of Time Spent Fostering Leadership Among Staff .....	134

F.28.	OLS Regression Results for Data Index on Time Spent .....	136
F.29.	OLS Regression Results for Resources Index on Time Spent .....	137
F.30.	OLS Regression Results for Aligned-Governance Item on Time Spent.....	137
F.31.	OLS Regression Results for Conflicting-Policies Item on Time Spent.....	138
F.32.	OLS Regression Results for Quality-of-District-Provided-Tools,-PD,-and-Evaluation Item on Time Spent.....	138
F.33.	OLS Regression Results for District-Provides-Administrative-Assistance Item on Time Spent .....	139
F.34.	OLS Regression Results for District-Provides-Sufficient-and-Qualified-Leadership-Staff Item on Time Spent .....	139
F.35.	OLS Regression Results for Autonomy Index on Time Spent .....	140
F.36.	OLS Regression Results for Data Index on Appropriateness of Time Spent ...	140
F.37.	OLS Regression Results for Resources Index on Appropriateness of Time Spent .....	141
F.38.	OLS Regression Results for Aligned-Governance Item on Appropriateness of Time Spent .....	141
F.39.	OLS Regression Results for Conflicting-Policies Item on Appropriateness of Time Spent .....	142
F.40.	OLS Regression Results for District-Provided-Tools,-PD,-and-Evaluation Item on Appropriateness of Time Spent .....	142
F.41.	OLS Regression Results for District-Provides-Administrative-Assistance Item on Appropriateness of Time Spent .....	143
F.42.	OLS Regression Results for District-Provides-Sufficient-and-Qualified-Leadership-Staff Item on Appropriateness of Time Spent .....	143
F.43.	OLS Regression Results for Autonomy Index on Appropriateness of Time Spent .....	144



## Summary

---

Improving the nation's public schools is one of the highest priorities of America's federal, state, and local governments. Among the imperatives gaining attention in recent years is the need to develop school leaders who are capable of exercising more vigilance over instruction and developing an institutional culture that supports effective teaching practices. To catalyze improvements in student learning, many states have enacted new leadership standards for principals and revised criteria for leader training programs. Districts, too, have begun to pay more heed to their own human resource pipelines by establishing programs to train aspiring principals and to develop the skills of mid-career principals. Recent research supports these efforts by finding that the quality of the principal is, among school-based factors, second only to the quality of the teacher in contributing to what students learn in the classroom (Leithwood et al., 2004).

These achievements, however, are not likely to have their desired effect if new policies and initiatives are inconsistent with other state and district policies affecting school leadership. If, for example, new leadership standards are implemented by the state but fail to influence the curriculum of professional preparation programs, they will have only marginal impact. And if principals receive strong leadership training aligned with standards but find that they have little authority over their school budgets or hiring, they will not be able to put the best practices they have learned into effect at their schools.

The Wallace Foundation, which has focused its grantmaking in education primarily on school leadership, has long recognized the need for more-coordinated state and district policies in this area. The Foundation's grants to states and districts over the past nine years have been designed to overcome the isolation of targeted reforms and to forge policy connections that could lead to more-cohesive and high-performing systems. The working hypothesis, or theory of action, behind these investments is that a cohesive leadership system (CLS), defined as well-coordinated policies and initiatives across state agencies and between the state and its districts, will increase the ability of principals to improve instruction in their schools. In particular, the hypothesis holds that coordinating the development of leadership standards, high-quality training, and the conditions that affect principals' work (such as access to data and sufficient

resources) will facilitate successful school leadership and support improved teaching and student learning. The Foundation commissioned RAND to document the results of its initiative and in the process to examine this hypothesis.

## Study Purpose and Approach

This study had three objectives:

1. To document the actions taken by Wallace Foundation grantees to create a more cohesive set of policies and initiatives to improve instructional leadership in schools
2. To describe how states and districts have worked together to forge more-cohesive policies and initiatives around school leadership
3. To examine the hypothesis that more-cohesive systems do in fact improve school leadership.

To document what the grantees at selected sites had accomplished, the RAND research team addressed three questions:

1. What policies and initiatives have states and districts pursued to improve school leadership?
2. How are the states and districts interacting to improve school leadership?
3. To what extent have they built cohesion among school leadership policies and initiatives?

To describe system development, we addressed several other questions, including, What strategies have sites used to build CLSs and why are some sites more cohesive than others? And how are sites attempting to scale up and sustain their work?

The third objective—examining The Wallace Foundation’s hypothesis—proved to be a difficult analytic challenge. Linking improved cohesion with student outcomes was beyond the scope of this two-year project. We chose instead to focus on the link between the conditions within which principals work and their reports on (and satisfaction with) time spent on specific instructional practices.

We performed a cross-case analysis, using a purposive sample of 10 Wallace grantee sites consisting of 10 states and their 17 affiliated districts. Before conducting site visits, we reviewed the literature on system-building and policy coherence and developed an understanding of the indicators of cohesive systems that we used to structure, compare, and interpret our findings. We then conducted site visits during which we interviewed 300 representatives of districts, state government, and pre-service principal preparation programs. We also fielded a survey of more than 600 principals and collected information in an online log in which nearly 170 principals described how

they spent their time every day for two weeks. We supplemented this information by interviewing 100 principals.

## Results

The study found that it is possible to build more-cohesive leadership systems and that such efforts appear to be a promising approach to developing school leaders engaged in improving instruction. Perhaps the most useful result of the analysis is our account of the strategies state and district actors have devised to build stronger working relationships and greater cohesion around policies and initiatives to improve education. By identifying those sites that had built more-cohesive systems, we were able to compare their strategies and historical contexts with those of sites that had not yet achieved fully cohesive systems. In this way, we were able to identify effective approaches to this work and local conditions that fostered success. These findings should be useful to others building statewide systems to improve education. Although we could not provide evidence that the full underlying theory behind the Wallace initiative is sound, we did find a correlation between improved conditions for principals and their engagement in instructional practices.

### What Are States and Districts Doing to Improve School Leadership?

**Policies and initiatives.** All the study sites had done something to improve school leadership. Their efforts were focused on six areas: standards, pre-service and recruitment, licensure, evaluation, in-service, and the conditions in which principals work. The policies and initiatives differed across sites in their focus, scope, stage of implementation, and the degree to which they challenged the status quo. We found that states and districts were equally likely to be engaged in this work. We also found that state and district domains of responsibility were converging. For example, states we studied were mandating evaluation systems and professional development for principals, which used to be primarily the domain of districts. Conversely, districts were developing their own pre-service programs (on their own, in partnership with local universities, or in partnership with nontraditional providers), a domain once dominated by state government.

**Roles and interactions.** We observed two patterns of interaction across the sites. In one, districts were, for the most part, improving school leadership on their own, without support or intervention from the state. In the other, the state was clearly the leader, with districts involved in primarily reactive ways. Kentucky was an exception; there, the school district and the state were equal partners in improving school leadership at the district and state levels. In Kentucky, and in some other sites falling into one of the two patterns above, the state was adept at identifying, supporting, and spreading good practices that were developed at the district level.

**Degree of cohesion.** We use the term *cohesion* to describe systems built in concert by the state and its affiliated districts. We identified sites with more- and less-advanced CLSs so that we could determine which strategies and contexts seemed to be beneficial in this work. Our analysis of interview data indicated that three sites—Delaware, Iowa, and Kentucky—had the most advanced CLSs at the time of our research. Compared with other sites, they exhibited all five characteristics we identified as present in highly cohesive leadership systems: comprehensiveness in the scope of their initiatives, alignment of policies and practices, broad stakeholder engagement, agreement on how to improve leadership, and coordination achieved through strong leadership. We also determined that although districts and states were equally likely to be taking action to improve leadership, states tended to lead efforts to build CLSs.

### **How Have Sites Built Cohesive Leadership Systems?**

States, rather than districts, have played the key role in creating connections among state and district policies and initiatives on leadership. State agencies are better positioned than districts to foster broad stakeholder engagement and agreement among stakeholders, coordinate initiatives, and ensure statewide alignment of resulting policies. Organizations with a statewide purview are also more aware of other education reforms and how leadership improvements can be integrated into the broader agenda. A comparison of lead organizations, strategies, and contextual factors highlighted some important differences among state efforts.

**Organizations leading efforts.** Sites differed a great deal in the organizations that assumed the lead role in developing cohesiveness. In some sites, it was the state education agency (SEA); in others, it was a university or a professional association; in still others, a large district was an equal partner in the work. There appeared to be no “best” approach: The appropriate constellation of actors depended on the local context, including who had the power, capacity, and inclination to move the work forward.

In the sites with more-cohesive systems (Delaware, Iowa, and Kentucky), the lead agency was chosen strategically. For example, state leaders assessed the internal capacity of their own SEAs, taking into account whether staff would be able to think and work outside the boundaries created by categorical federal programs and the overall credibility of the SEA and its political priorities. These sites proactively developed distributed systems of leadership with key roles assigned to different types of organizations, including SEAs, universities, leadership academies, professional associations, regional education offices, and districts.

**Strategies used to build cohesion.** Interview data suggested that eight strategies were the most important for building cohesion:

1. Building trust
2. Creating formal and informal networks
3. Fostering communications

4. Exerting pressure and influence
5. Promoting improved quality of leadership policies and initiatives
6. Building capacity for the work
7. Identifying strong individuals with political and social capital to lead the work
8. Connecting to other reform efforts.

The sites with the most-cohesive leadership systems shared several distinctive approaches to implementing these strategies. First, unlike other sites, they were pursuing all eight strategies and working more intensively than others on three strategies in particular: building organizational capacity to accomplish the work, identifying leaders with strong social and political capital, and connecting the efforts on leadership improvement to other reform efforts in the state. Leaders who can connect school leadership reforms with other education initiatives in their states help build sustainability for their efforts and may reduce burdens on districts and schools. Also, in Delaware, Iowa, and Kentucky, distributed leadership systems were built with key state-level organizations, as described above.

Second, leaders in these states pursued strategic communications. Delaware and Iowa routinely gathered key state and district leaders into the same room to both learn about leadership and develop policies and initiatives to improve it. Kentucky accomplished the same goals in a serial fashion by holding town hall meetings throughout the state that were credited with creating “learning systems for leadership.”

Third, all three sites combined pressure tactics and support in effective ways. In Kentucky, for example, to create an incentive for all higher education institutions to engage in pre-service redesign, Jefferson County Public Schools (JCPS) and the Department of Education sought approval from the State Board of Education to design their own program, applying pressure that succeeded in making the universities more active partners in the process. But Kentucky did not rely on pressure alone: CLS leaders also offered support for the redesign process in a number of ways.

**Contextual factors that promoted or hindered the work.** Interviewees reported a range of factors that enabled or inhibited efforts to build cohesion:

#### **Enabling factors**

- Common structures and policies
- A history of collaboration
- Strong preexisting social networks
- Participation of nontraditional actors
- Funding and technical assistance from The Wallace Foundation
- Political support
- Supportive, stable, and aligned superintendents and school boards

### **Inhibiting factors**

- Limited resources
- Limited SEA capacity
- Turnover of key staff
- Too many organizations, too far apart
- Cultures of independence
- Discord across organizations
- Reform overload

Sites with the strongest record in building cohesion shared a number of enabling factors and were less limited by inhibiting factors. Delaware and Iowa both had a history of relatively positive relationships among deeply networked state-level stakeholders, as well as a history of collaboration among them. Although Kentucky did not have a history of positive collaboration between state and district actors, the Wallace funding and technical assistance created the opportunity for leaders from the SEA and JCPS to work collaboratively.

These sites also enjoyed a higher and more consistent level of political support than other sites in our sample. All three states have a history of activism in education reform, and their political leaders have long shared a commitment to school reform which created fertile ground for leadership initiatives.

Finally, the three sites were collectively less likely to face some of the key barriers to building a cohesive system, such as staff turnover, a culture of independence, or discord across organizations. Other barriers, however, were present, including limited resources and SEA capacity, organizations that were geographically far apart, and, in the case of Kentucky, a history of discord across organizations. We found some evidence that these three sites were more resourceful than others in developing strategies to overcome contextual challenges such as limited SEA capacity and a history of discord. Less-cohesive sites showed more limited capacity—and perhaps more limited will—to overcome such obstacles.

**Sustaining and scaling up the work.** Our interviews suggested that in more-cohesive sites, the CLS initiative is likely to continue beyond the period of Foundation support. Although many interviewees described challenges to sustaining this work once funding and technical assistance ends—challenges such as insufficient time, staff, and resources and the eventual loss of dynamic leaders—they also described creative strategies they were adopting to sustain and build on their achievements, including passing legislation, embedding the initiative into their state’s education agenda, and vesting future leadership of the initiative in organizations outside government to help shield it from political changes in SEAs.

Many interviewees felt that their success in creating cohesion provided in itself some assurance that the initiative would survive. In some states, leaders felt their efforts had reached the point of no return: They had established bonds among people and

agencies, a common language and vision, and widespread commitment to the goal of improving school leadership.

### **Did We Find Support for the CLS Hypothesis?**

We were not able to determine whether more-cohesive systems were correlated with the ability of principals to spend more time on practices that are reported to be effective in improving the quality of instruction. However, we did find that principals reporting favorable conditions also reported that they spent more time on a series of instructional leadership practices. Our analysis does not provide evidence of causation—there could be other explanations for this correlation—nor can we demonstrate that principals spending more time on these practices has improved student learning. But our findings do offer some support for the theory that positive conditions for principals promote stronger instructional leadership.

## **Recommendations**

Our study findings provide some practical lessons drawn from the experiences of the hundreds of people we interviewed. Although we focus on lessons learned about system-building to improve school leadership, our recommendations are intended to be helpful to anyone engaged in developing closer working relationships between states and districts that can result in better aligned policies for improving education.

### **Early Steps**

**Consider local contexts and address the challenges they pose.** Our analysis showed that local context can work either for or against efforts to develop cohesion. Clearly, sites with a culture and history of collaboration and strong social networks are better suited for such efforts. A supportive political structure for public education reform is also important. We found that building cohesive systems under challenging conditions, such as limited resources, cultures of independence, or reform “burnout,” was difficult. However, some sites found ways to surmount barriers. Other sites interested in emulating these reform efforts could closely examine their context and their capacity for them. In particular, they may want to address potential barriers before launching new reform efforts.

**Identify strong lead organizations and individuals.** Although lead agencies in the sites we studied varied, what the most advanced sites had in common—and what distinguished them from most others—was a strategic approach to the selection of people and organizations to lead the work. It is critical to find strong leaders who can form significant bases of power, garner political support for improving school leadership, and connect school leadership efforts to broader reform initiatives in the state. We recommend that sites determine which of their agencies or organizations is best poised

to lead the effort to develop a CLS. In particular, sites should question whether the SEA is the best choice for this role, factoring in its overall capacity and credibility and its willingness to think and work outside the boundaries created by categorical federal programs.

**Capitalize on external funding and expertise.** All of the sites we studied benefited from funding and technical assistance from The Wallace Foundation. However, we found that many of the sites also capitalized on diverse sources of funding, such as local foundations, both before and during the course of the Wallace funding. They also sought technical assistance from others; all of the sites engaged external organizations, such as the Southern Regional Education Board (SREB), and key experts in school leadership to help them develop their capacity to do this work. The sites also met with each other to discuss strategies for success. Although securing a level of funding similar to the amounts awarded to the Wallace grantees may be challenging, new sites could investigate local foundations and businesses as possible sources. Furthermore, the sites described in this monograph are willing to provide technical assistance and guidance to other sites embarking on this work. Prospective sites could also learn from engaging expert organizations such as The Wallace Foundation and SREB as they explore options for building more-cohesive leadership systems.

### The Implementation Phase

**Build trust and mend fences.** Relationships between state and district actors are sometimes acrimonious. The sites we studied reported that certain approaches to building trust were useful; such approaches included acknowledging that the state and the districts were “in this together” and ensuring that state actors took the time to understand district contexts and to develop the capacity to provide useful technical assistance. A “fresh face” also had benefits: New state actors repaired previously broken relationships between district and state organizations. Sites may need to address possible trust issues before undertaking efforts to develop CLSs. Once trust has been established, it should be easier to develop common understandings, shared goals, and joint ownership of the work.

**Engage a broad coalition of stakeholders.** Building cohesion requires serious efforts to engage stakeholders and foster agreement. Engagement for coordination requires time and resources. Sites should recognize the importance of involving relevant stakeholders and giving them the authority to make decisions, thereby fostering buy-in. Key state and district leaders would also benefit from meeting in the same room to discuss leadership and to develop policies and initiatives for improving it.

**Hone skills at applying pressure while providing support.** The most successful sites in this study combined pressure with support. This strategy benefited both states and districts. Applying pressure was effective when people perceived the state as willing and able to exercise its powers, and offering support was effective only when state actors

and agencies could provide expertise that districts needed. Sites that can apply pressure while being supportive might accomplish the greatest policy reforms.

**Recognize innovative districts as “lead learners.”** A number of innovative and sustainable policies and initiatives that began in the districts we studied spread to other districts and/or to state policy. States whose districts have made progress in improving school leadership should recognize these achievements and hold the districts up as possible models for others. State officials would benefit from partnering with such “lead learners” and creating mechanisms for scaling up relevant initiatives.

**Connect school leadership efforts to standards and to other reforms in the state.** Savvy leaders we interviewed knew how to link their efforts to build CLSs to other reforms in their states, such as high school and middle school reform programs. This approach helped to provide a platform from which to align policies and initiatives and appeared to foster both viability and sustainability. To bolster the success of leadership efforts, new sites could integrate leadership policies with other educational reforms in their districts and state.

### **Evaluation, Sustainment, and Expansion**

**Solidify programs and funding through legislation and regulations.** Widespread and long-term reform was achieved through legislation and mandates that ensured that initiatives such as mentoring, evaluation systems, and the redesign of pre-service programs were implemented and funded. Other sites could include regulatory and funding designs in their efforts to build cohesion.

**Engage in continuous learning and improvement.** Leaders and organizations involved in building a CLS sought and shared expertise by participating in networks, attending conferences, and sharing ideas from research. They collected data to demonstrate that building a CLS had made a difference and to attract future funding. Other sites would benefit from similar commitments to continuous improvements.

**Commit to engaging in this work over the long term.** As many people told us, aligning policies and practices and building collaborative relationships between states and districts is hard work. Four of our study sites had been able to implement only a few initiatives despite receiving levels of funding and support similar to those of other, more successful sites. Even leaders in sites that have relatively advanced CLSs reported that only after nine years of effort were they beginning to see a real difference. Those who choose to embark on such an initiative should be prepared to engage in the work over the long term.

### **Final Thoughts**

We found that it is possible to develop cohesive leadership systems between states and districts to improve school leadership, and we have identified the approaches that

appear most effective for developing such systems, as well as local conditions that create a favorable environment for this work. Although we did not attempt to prove the hypothesis that such systems improve student outcomes, we affirmed the link between principals' conditions and the time they spend on instructional leadership practices. It is our hope that this analysis will help guide other states and districts in working collaboratively toward the common goal of improving school leadership.

## Acknowledgments

---

Many people helped in conducting this study and producing this monograph. We would like to thank those at The Wallace Foundation for their substantive assistance and financial support. In particular, Mary Mattis provided valuable guidance on the intellectual and analytic components of our study. She and others reviewed draft documents and gave us incredibly valuable feedback and suggestions.

The Wallace Foundation's grantees of record were extremely helpful in identifying and enabling access to those persons most knowledgeable about the leadership improvement initiatives in each state and district. We are particularly grateful for the time given to us by our interviewees—both the experts we interviewed when we launched this project and those we interviewed at each site. Although we are keeping their identities confidential, their insights, opinions, and ideas formed the basis of our study.

Neil DeWeese and Stephanie Lonsinger coordinated the survey work, scheduled interviews across the sites, and edited and fact-checked contributions. Diana Epstein, Scott Epstein, Maxine Klimasara, Jeff Marshall, Lou Sabina, and Anisah Waite devoted time and effort to reviewing the literature, analyzing data, interviewing, and taking notes. Susan Gates and Laura Hamilton provided early assistance in conceptualizing the project and research design. Dan McCaffrey provided statistical consulting throughout the course of the project. Lynn Scott provided insightful feedback on our ideas and drafts.

The monograph itself was greatly improved through the efforts of reviewers and editors. Cathy Stasz served as a quality assurance reviewer and provided very useful feedback on document drafts. Rich Halverson and Paco Martorell served as peer reviewers. Both provided thoughtful and insightful reviews that led us to follow up on new leads in our data. Last, but certainly not least, Laura Zakaras's assistance in framing and drafting the messages was invaluable.



## Abbreviations

---

APS	Atlanta Public Schools
AYP	adequate yearly progress
CCD	Common Core of Data
CCSSO	Council of Chief State School Officers
CLS	cohesive leadership system
CSSO	chief state school officer
DPAS II	Delaware Performance Appraisal System
ExEL	Executive Leadership Program for Educators
GLISI	Georgia Leadership Institute for School Improvement
IL-SAELP	Illinois State Action for Education Leadership Project
ISLLC	Interstate School Leaders Licensure Consortium
JCPS	Jefferson County Public Schools
NAEP	National Assessment of Educational Progress
NCES	National Center for Education Statistics
NCLB	No Child Left Behind
NISL	National Institute for School Leadership
OLN	Oregon Leadership Network
OLS	ordinary least squares
PD	professional development
RPDC	regional professional development center
SAELP	State Action for Education Leadership Project
SAM	school administration manager
SDD	SchoolDataDirect (an online service of the State Education Data Center)

SEA	state education agency
SREB	Southern Regional Education Board
SRT	school reform team
VAL-ED	Vanderbilt Assessment of Leadership in Education

## Introduction

---

Researchers have identified school leadership as a key factor in improving schools and their students' achievement. In a recent review of the literature, Leithwood et al. (2004) concluded that among school-related factors that are associated with students' achievement, leadership is second only to classroom instruction. In addition, they found more demonstrated effects of successful leadership in low-performing schools. Although other factors, such as parental involvement, students' background, school characteristics, and the district context, should not be overlooked, certain practices on the part of principals have been found to be related to positive student outcomes, including increased student achievement (Waters, Marzano, and McNulty, 2003).

The research is less clear on what effective principals do to improve student achievement, as few empirical studies have examined this topic. The data that exist are mainly qualitative, making their generalizability questionable. At the same time, researchers are encouraged to take school context into greater consideration (Leithwood et al., 2004), arguing for research aimed less at the development of particular leadership models and more at discovering how flexibility is exercised by those in leadership roles.

These limitations notwithstanding, recent research suggests that effective principals spend more time in direct classroom supervision and support of teachers (NCSL, 2007), work with teachers to coordinate the school's instructional program, help solve instructional problems collaboratively, and help teachers secure resources and professional training (Heck, Larson, and Marcoulides, 1990). Principals may also improve student learning through their control of the curriculum and their power to select and motivate skilled teachers (Eberts and Stone, 1988; Brewer, 1993). As "instructional leaders," principals are expected to transform schools into learning-centered organizations by focusing them on student learning, creating communities of professionals in pursuit of that goal, and interfacing with external constituents to promote learning (CCSSO, 1996; Knapp, Copland, and Talbert, 2003).

Researchers and practitioners alike have described several problems that have systematically hindered cultivation of strong leaders. First, the education system has failed to attract high-quality candidates to the profession of school principal, particularly for schools that need them the most (Knapp, Copland, and Talbert, 2003). Part of the problem is that principals tend to self-select by enrolling in administrative certi-

fication programs. The literature suggests that the education system should do more to identify promising candidates and to entice them with better pay and conditions (Usdan, McCloud, and Podmostko, 2000; Norton et al., 2002; SREB, 2003, 2006; and Darling-Hammond et al., 2007).

Second, school leaders are not sufficiently prepared by pre-service programs, which have historically focused on managerial issues such as school law and administrative requirements and have failed to adequately address topics needed for instructional leadership such as instructional strategies, curriculum, and supporting teachers' professional growth (Copland, 1999; Elmore, 2000; Usdan, McCloud, and Podmostko, 2000). In addition, pre-service programs have typically not had strong clinical components that allow principals to gain practical knowledge and experience prior to leading their own schools (Peterson, 2002). There are many calls for the education system to hold pre-service programs accountable for strengthening student selection processes, improving the relevance and rigor of course content, and providing clinical experiences (Mazzeo, 2003; SREB, 2003, 2006; Davis et al., 2005; Darling-Hammond et al., 2007). In addition, policymakers have been encouraged to support alternative principal preparation programs (Mazzeo, 2003).

Third, the professional development (PD) offered to school leaders is considered weak and poorly connected to participants' needs (Coffin, 1997; Portin et al., 2003). Although the research on the impact of PD is not definitive, researchers argue that the education system needs to provide leaders with more sustained learning opportunities that are relevant to their career stage and linked to their needs (Peterson, 2002; Davis et al., 2005). This could include providing ongoing PD programs or institutes, as well as providing mentoring and/or coaching for new administrators (Usdan, McCloud, and Podmostko, 2000).

Fourth, the education system should establish rigorous leadership standards that reinforce expectations that principals will serve as instructional leaders (Usdan, McCloud, and Podmostko, 2000; Darling-Hammond et al., 2007). Such standards can be used to guide the updating of initial licensure and relicensure requirements. When linked to accreditation policies, standards can be used to hold preparation programs accountable for improving program content and structure. Standards can also motivate improvements in ongoing PD (Darling-Hammond et al., 2007).

Fifth, even when strong candidates are recruited and trained, the policy and programmatic environment often results in conditions that hinder them. Principals need supportive conditions such as access to data to inform their decisionmaking and authority to direct resources (people, time, and money). For example, effective leaders need autonomy to manage their own time as well as instructional and PD time for their staff (including setting calendars and daily schedules) (Portin et al., 2003).

In addition, effective leadership is enabled by personnel policies that not only allow leaders to make staffing decisions, but also provide efficient processes and sup-

port structures for recruiting, hiring, developing, and evaluating staff. Effective leadership is enabled by governance policies and structures that support organizational goals, clearly define roles and responsibilities of governing entities, assure role alignment and mutual accountability, and encourage stakeholder and parent engagement without interfering with autonomy (Portin et al., 2003; Vitaska, 2008).

Finally, the system within which principals work can either facilitate or obstruct effective leadership. The American education system has been described as fragmented, contradictory, and duplicative. Decisions are made in multiple arenas, at different levels of government, by many different actors. This leads to fragmentation among institutions both within and across government levels and inhibits the formation of coherent education policy (McDonnell, 2007).

In the late 1990s, The Wallace Foundation began to recognize the importance of school leadership and the lack of cohesion in education policies as an important issue. Since then, it has invested in a range of efforts to improve school leadership. These efforts have been aimed at involving multiple stakeholders in policymaking; basing programs, policies, and practices on high-quality leadership standards; and ensuring alignment across programs, policies, and practices. It is The Wallace Foundation's hypothesis that a more cohesive system supports improved school leadership, leading to improved teaching and learning.

## **The Cohesive Leadership System Hypothesis**

By 2000, the emerging connection between strong instructional leaders and school improvement was making its way into state education policy discussions. The Interstate School Leaders Licensure Consortium (ISLLC) produced its first set of standards for school leaders in 1996 (CCSSO, 1996). At that time, some higher education institutions were beginning to rethink the conceptual cornerstones of their programs. The result was a shift from management theory to practices and behaviors of high-performing leaders and the standards they exemplify (Murphy, 2003). Several national and state-based policy organizations turned their attention to the recruitment, training, and retention of instructional leaders (see, e.g., Crews and Weakley, 1996; Murphy, Martin, and Muth, 1997; Hoyle, English, and Steffy, 1998). Pockets of research began to link school-leader behaviors to effective teaching and learning (e.g., Leithwood et al., 2004).

Within this context, The Wallace Foundation began its state initiative, the State Action for Education Leadership Project (SAELP) in 2000. Through SAELP, the Foundation provided funding to states to improve school leadership. A national consortium of state-based policy organizations was engaged in the management and support of the

SAELP initiative.<sup>1</sup> Its role was to support the initiative by helping state leaders forge an active state role to support developing a quality leader for every school (The Wallace Foundation, 2002). Shortly thereafter, Wallace decided to fund districts within its SAELP states.<sup>2</sup> It initially selected 17 districts and funded some at 20 times the level of the state funding. Funding will end for both states and districts on June 30, 2010.

In the early years of the state and district initiatives, Wallace program officers worked closely with their grantees, observing progress and noting obstacles across the sites. Foundation staff began to recognize the importance of the conditions that support leaders, such as resource allocation, decisionmaking and governance structures, incentives, and access to timely and adequate data. These conditions are influenced at both the state and the local levels, necessitating a two-way collaboration between states and districts to align state policies to district needs. Foundation staff concluded that creating better conditions for leaders required a systemwide, coordinated approach to developing policies aligned at state and district levels. They created informal, one-page system maps that depicted how states and districts were influencing each other. These maps reflected their emerging knowledge and a representation of what would later be hypothesized as the key elements of a cohesive leadership system (CLS) in the Foundation's publication *Leadership for Learning: Making the Connections Among State, District and School Policies and Practices* (The Wallace Foundation, 2006).

Figure 1.1 illustrates the Foundation's CLS hypothesis. The box on the left shows aligned actions undertaken by states and districts to set leadership standards and improve training and conditions for aspiring and current school leaders.

These actions support and enable effective leadership practices. Effective school leadership is evidenced by principals who have high expectations for students, use data to inform their decisions, and focus attention and resources on improving instruction. It is also achieved by school leadership teams that plan, implement, and evaluate improvements in instruction for all students. The outcome of interest—improved teaching and student achievement—is facilitated by effective school leadership.

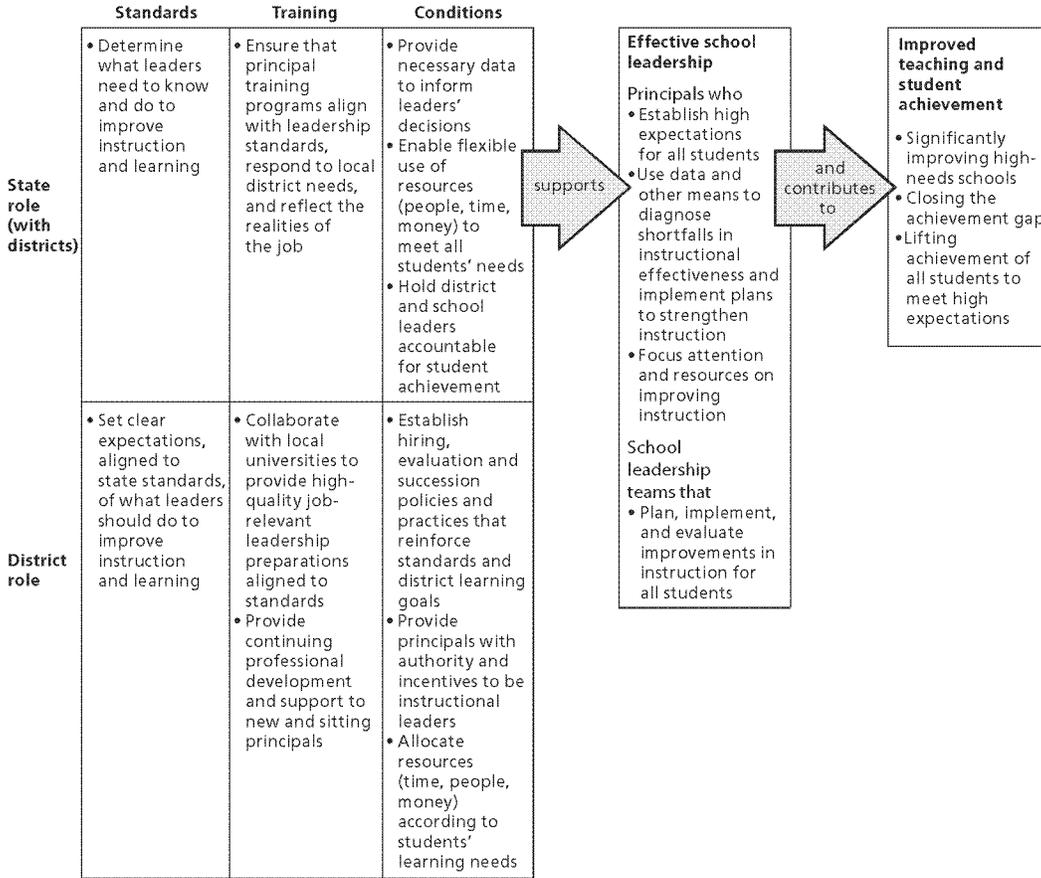
This hypothesis raises three issues worth noting. First, it assumes that states and districts will be able to determine what principals should know and do to promote student achievement and that, once they make that determination, a cohesive system should be built around standards and expectations for school leaders. It is possible, however, that districts and states will not easily determine how to improve school leadership in ways that reliably improve student learning. Some critics argue that researchers have not yet found sufficient evidence that the leadership practices that are now pro-

---

<sup>1</sup> The partners included the Council of Chief State School Officers (CCSSO), the Education Commission of the States, the National Association of State Boards of Education, the National Conference of State Legislatures, and the National Governors Association.

<sup>2</sup> There were exceptions to this pattern. For example, Jefferson County Public Schools (JCPS) received funding from the Foundation before the state of Kentucky did.

**Figure 1.1**  
**The Wallace Foundation’s Working Hypothesis of a CLS**



RAND MG895-1.1

moted will improve student learning. If that is the case, policymakers and practitioners have little empirical evidence to guide them, and cohesion could be built on unproven policies and initiatives. A set of policies may be coherent but not the appropriate solution to a problem (May, Sapotichne, and Workman, 2006). Second, the hypothesis does not focus on cohesion at the school level, although it could be argued that leadership teams would serve the function of aligning school-level practices and policies. Third, the hypothesis seems to ignore external risks to cohesion that could arise when other types of policies and initiatives interfere with or divert attention from leadership improvement initiatives. External threats to cohesion include, for example, teacher union contracts, lawsuits, community pressures, and local politics.

## Research Relevant to Cohesive Leadership Systems

Although no existing studies analyze the Foundation's hypothesis directly, two bodies of research are relevant. The first consists of studies that call for greater coherence in education policy, while acknowledging the difficulty of measuring it. Coherent education policies send the same messages, avoid contradictions, and "build on one another in some way to form a larger whole" (Fuhrman, 1993). Coherence should result in greater stability of the policies themselves and greater impact in the field (May, Sapotichne, and Workman, 2006).

The second is a body of work that analyzes the process of interorganizational collaboration for tackling complex public policy problems within education and other domains. This literature highlights a number of elements that are essential for successful interorganizational collaboration: engagement of relevant stakeholders, stakeholders' belief that they share a common interest and must work together to solve a mutual problem, formalization of relationships, frequent and effective communication, organized planning and coordination of stakeholder activities, and the presence of a leader or convener (Legler and Reischl, 2003).

Some studies examine the challenges of such collaborative work (e.g., McGuire, 2006). Collaborations enable a synergistic search for solutions that would not be possible for each partner to perform alone, while at the same time satisfying each partner's own goals (Thomson and Perry, 2006). However, there is tension between a partner's own distinct identity and the collective identity and between self-interest and the collective interest, and the partners need to have "mutually beneficial interdependencies" to sustain the collaboration. Cooperation usually means compromise and bargaining, and sometimes a participant's own objectives have to be put aside to achieve the benefits of a mutual solution.

Other studies illustrate that collaborative work creates interdependency that can have either positive or negative consequences. Some argue that the process of cooperation among professional, public, and political actors results in long-term support and influence that transcends the particular issue that spurred the initial collaboration (Fuhrman, 1993). Although this long-term support can be beneficial, Bryson, Crosby, and Stone (2006) suggest that when systems become highly interconnected through cross-sector collaborations, changes in one sphere can reverberate unexpectedly through the system and there can be complex feedback loops with unintended consequences. Collaborations can also create new dependencies that complicate the policy environment, while each partner's control over that increasingly complex environment decreases (Thomson and Perry, 2006).

Because successful collaboration requires significant time and resources, some researchers have suggested that collaboration may be appropriate primarily for complex tasks (Thomson and Perry, 2006; Lundin, 2007). Building a CLS would be considered a complex task.

This literature provides cautious support for the Foundation's hypothesis. If states and districts are able to work together to build CLSs, they should be able to overcome policy fragmentation and improve consistency in policies and initiatives to improve leadership. They should carve out time and focus the attention of multiple stakeholders on improving school leadership, which the literature indicates is an important schooling component. Their joint work should also uncover promising practices at both the state and the district level, which would allow the state to better capitalize on and spread district successes. Ideally, if multiple partners are considering mechanisms to improve leadership, they will reference the most recent literature to the extent that it is useful but will also personalize efforts to their state context.

## Objectives of This Study

The study reported here had three central objectives:

1. To document work undertaken in selected sites to build CLSs
2. To describe how such system-building is achieved and the strategies and contextual factors associated with the most advanced systems
3. To examine the CLS hypothesis that cohesion improves school leadership.

To meet the first objective, we synthesized existing literature to identify areas in which districts and states pursue policies and initiatives to improve school leadership: standards, pre-service/recruitment, licensure, evaluation, in-service, and principal conditions. We then analyzed activities in those policy areas in the sites.

We also analyzed the extent to which the policies and initiatives pursued in the sites formed a cohesive system. To do so, we reviewed the literature on system-building and developed a conceptual framework for assessing the presence of a CLS that included both structural and process dimensions. The structural dimensions of cohesive systems include comprehensiveness of leadership-related policies and initiatives and alignment of policies and practices within and between states and districts. The process dimensions include engagement of relevant stakeholders, agreement among stakeholders on the importance of school leadership and how it can be improved, and strong leadership that is capable of coordinating the work of multiple partners to build a CLS. We used these criteria to compare the extent to which cohesive systems had been achieved within the sites. By determining variance in the extent of cohesion built, we could better identify strategies and contextual characteristics that were associated with more-advanced CLSs.

Our second objective was to describe how the sites went about developing such systems and why there were variations in what sites had achieved. We analyzed the strategies the sites used and looked for differences between strategies used by sites that

had achieved the most advanced systems and those used by the others. We also considered the contextual factors that enabled or hindered this work, such as a history of collaboration or strong preexisting social networks, staff turnover, and limited capacity within the state education agency (SEA).

Finally, we examined the hypothesis that a CLS improves school leadership. Because it was beyond the scope of the study to examine effects on student achievement—the ultimate goal of the CLS hypothesis—we focused on other potential effects. Specifically, we collected data from principals about their conditions and instructional leadership practices, two key components of the Wallace hypothesis. Attempts to survey principals about their training and about leadership standards proved less successful than questions about the conditions they faced and the instructional leadership practices they engaged in. Hence, we examined survey data from principals on their conditions, including the extent to which they reported having access to data, autonomy, and resources. Then we assessed whether principals who reported better conditions were more likely to be engaging in instructional leadership practices that are associated with improved student achievement, such as supporting the instruction of students. This approach was not sufficient to demonstrate that cohesion is a proven mechanism for improving school leadership and student achievement. Even showing a relationship between better conditions for principals and more time spent on instructional leadership is not sufficient to demonstrate that improved school leadership results in higher student achievement, since other factors may be influencing these outcomes. However, if we could demonstrate that principals reporting better conditions also spent more time on instructional leadership—and believed that the time was sufficient—this finding would offer some support for the Wallace hypothesis.

## Organization of This Monograph

In Chapter Two, we describe the sites, data sources, and research methods used in the study. The rest of the monograph addresses the following research questions in this order:

1. **What policies and initiatives have states and districts pursued to improve school leadership?** Chapter Three describes the actions taken by both states and districts to improve school leadership.
2. **How are districts and states interacting to improve school leadership?** Chapter Four examines the different roles of states and districts as they worked together and separately to improve school leadership.
3. **To what extent have CLS sites built cohesion among policies and initiatives?** Using the indicators of cohesive systems we derived from the literature, we compare in Chapter Five the comprehensiveness of the policies and initia-

tives of the sites in our sample, the alignment among these policies and initiatives, and the collaborative efforts the sites used to build them. This enables us to distinguish the sites in terms of their relative success in establishing a CLS.

4. **How have sites built CLSs and why have some sites been more effective than others?** Chapter Six describes key strategies that sites have used to develop cohesion and identifies the inhibitors and facilitators of those strategies. We then determine whether the more cohesive sites vary along these dimensions.
5. **How are sites attempting to scale up and sustain their work?** In Chapter Seven, we explore efforts to scale up and sustain the progress made to date, noting challenges to sustainment and expansion and strategies for sustainment and growth.
6. **Do we find support for the CLS hypothesis?** In Chapter Eight, we examine whether principals who report positive conditions also spend more time on practices that relate to quality of instruction and whether they reported that this time spent was sufficient to meet the needs of their schools.
7. **What are the policy implications of our findings?** In Chapter Nine, we draw lessons from our analysis for other states and districts that are trying to build closer working relationships and more aligned systems in support of educational reform.

## Caveats

This study had several limitations, some of which are important to the interpretation of our results. First, as we have mentioned, we were not able to analyze the effects of more-cohesive systems on student achievement. Nor can we make causal claims about the relationship between the cohesiveness of policies within a site and effective leadership practices. We did not survey principals over time to see whether they noted differences in conditions or their ability to focus on instructional leadership as cohesion developed between their district and state.

Second, although we recognize that the term *school leadership* encompasses a broad array of leaders, we focused mainly on principals. Although we asked district and state interviewees about efforts to improve leadership for aspiring leaders and supporting actors, such as school board members, we did not systematically interview or survey teachers, school leaders other than principals, or school board members.

Third, we did not measure the relative effectiveness of particular leadership policies and practices implemented by each site. We looked at the comprehensiveness of these actions, but not at their effectiveness: In other words, we cannot say whether the actions we document are likely to lead to improvements in school leadership.

Fourth, we did not examine cohesion within individual schools. Some of the literature we examined (e.g., Newmann et al., 2001) discusses within-school instruc-

tional program coherence. However, this was not a topic of our research, given that the Wallace model does not address this level of cohesion. Nor did we examine cohesion within particular districts. Although we examined actions districts were taking to improve school leadership in an aligned fashion, we reserved the term *cohesive* to refer to the relationship between the state and its affiliated districts, to reflect the full CLS hypothesis.

Fifth, since the selected sites were working to improve school leadership through funding from The Wallace Foundation, they represent exemplars and not more typical examples of what we might find in other locations throughout the country.

Finally, we were not able to generalize our findings across an entire state. We focused on the work being done at the state level in conjunction with one to three districts in each state. Although much of the work done at the state level had the potential to affect all districts in a state, our data collection and analysis were limited to the relationship between state organizations and selected affiliate districts.

Despite these limitations, however, this study provides an extensive analysis of what can be done when states and districts commit themselves to working together toward the common goal of improving school leadership.

## Data Sources and Analytic Approach

---

To answer the study questions, we employed a cross-site comparative case-study design and both qualitative and quantitative research methods. We used multiple sources of data to triangulate findings within and across sites. We analyzed data from documents, interviews, principal surveys, and principal end-of-day logs, noting both confirming and refuting evidence. This chapter describes site selection, data sources, and our cross-site analytic approach.

### Study Site Selection

In 2007, The Wallace Foundation took stock of progress in 21 states and several more districts that it had been funding and otherwise supporting and classified them into one of three categories: CLS, aligned system of leader development, or leadership network. Sites in the *CLS* category were those making the most progress toward connecting state and district policies affecting leadership standards and training; they were making progress on improving at least three different conditions for school leaders that should positively impact instructional leadership and lead to improved teaching and learning. Those in the *aligned system of leader development* category were making progress on creating aligned policies and initiatives focused primarily on training. These sites were addressing only one condition. Sites in the *leadership network* category were deemed to be making less progress on creating aligned systems. These categories have dictated funding and support levels from the Foundation for the past two years.

The Foundation and our study team purposively selected 10 of the 21 funded state/district sites representing a range of progress in developing a CLS. Table 2.1 lists the selected sites and the Wallace classification of each state and district. Each site consists of one state plus one to three affiliated districts. Although each state and each district pursued some initiatives independently, our study focused on the CLSs being built by the states and their partner districts.

**Table 2.1**  
**Sites Selected for the Study by Wallace Classification**

State and School Districts	Wallace Category
Delaware	CLS
Appoquinimink	—
Christina	—
Indian River	—
Georgia	CLS
Atlanta	CLS
Illinois	CLS
Chicago	CLS
Springfield	CLS
Indiana	Network
Fort Wayne	Aligned
Iowa	CLS
Clear Creek Amana	—
Davenport	—
Waterloo	—
Kentucky	CLS
Jefferson County	CLS
Massachusetts	CLS
Boston	CLS
Springfield	CLS
Missouri	Aligned
St. Louis	Aligned
Oregon	Aligned
Eugene	Aligned
Portland	Aligned
Rhode Island	Network
Providence	Aligned

Table 2.2 lists the funding levels and duration of funding for the selected sites. The organizations listed in italics are the grantees of record for the state funding. The districts in boldface are those that received direct funding from the Foundation. Only districts in Delaware and Iowa did not receive direct funding; the Foundation grants made to these states were used to influence multiple districts. Funding varied from \$6.1 million in Iowa to \$13.8 million in Massachusetts. Funding to Boston, Chicago, and Portland school districts started in 2005, and in Kentucky, JCPS was funded before the state received funding.

The sites differed in some fundamental ways, which we considered in our analyses of the data. First, they differed in the number of districts studied. Second, as noted in the tables, not all districts were Wallace grantees—those without any CLS category designation in Table 2.1 did not receive direct funding from the Foundation. Third, two districts—Providence and Fort Wayne—were categorized differently from their states. The Foundation deemed that these two districts were making more progress than their states in improving school leadership.

**Table 2.2**  
**Wallace Education Leadership Grants for Study Sites (projected through June 2010)**

Site	Years of Funding	Approximate Total Funding (\$ millions)
Delaware and partner districts ( <i>DE Department of Education</i> ) Appoquinimink Christina Indian River	2001–2010	6.5
Georgia and partner districts ( <i>University System of GA Fdn Inc.</i> ) <b>Atlanta Public Schools</b>	2001–2010 2001–2010	5.6 6.2
Illinois and partner districts ( <i>IL State University</i> ) <b>Chicago Public Schools</b> <b>Springfield School District 186</b>	2001–2010 2005–2010 2001–2010	5.3 3.2 5.0
Indiana and partner districts ( <i>IN Department of Education</i> ) <b>Fort Wayne Community Schools</b>	2001–2010 2001–2010	1.3 7.7
Iowa and partner districts ( <i>IA Department of Education</i> ) Clear Creek Amana Davenport Waterloo	2001–2010	6.1
Kentucky and partner districts ( <i>KY Department of Education</i> ) <b>Jefferson County Public Schools</b>	2003–2010 2001–2010	3.1 8.7
Massachusetts and partner districts ( <i>MA Department of Education</i> ) <b>Boston Public Schools</b> <b>Springfield Public Schools</b>	2001–2010 2005–2010 2001–2010	2.9 2.9 8.0
Missouri and partner districts ( <i>MO Department of Elementary &amp; Secondary Education</i> ) <b>St. Louis Public Schools</b>	2001–2010 2001–2010	2.7 5.0
Oregon and partner districts ( <i>OR Department of Education</i> ) <b>Eugene School District 4J</b> <b>Portland Public Schools</b>	2001–2010 2001–2010 2005–2010	4.1 5.6 0.9
Rhode Island and partner districts ( <i>RI State Department of Elementary &amp; Secondary Education</i> ) <b>Providence School Department</b>	2001–2010 2001–2010	1.4 7.0
Total	—	99.2

The study sites also varied greatly with respect to region, enrollment, percentage of minority students, progress in academic achievement, and, for districts, urbanicity. Details of the sociodemographic characteristics and trends in academic achievement of the sites are given in Appendix A.

## Data Sources

From February through November 2008, we systematically gathered information across all the selected sites on the policies and initiatives they were developing and implementing to improve school leadership and the strategies they had enacted to develop cohesion. At the start of the project, we interviewed 10 experts in school leadership to inform the development of our analytic framework and the interview and survey instruments. We collected most of our other data from interviews with representatives of district, state, and pre-service principal preparation programs, and we supplemented that information with a review of websites and progress reports and other project documents sent to the Foundation. To assess principals' conditions and time spent on instructional leadership practices, we interviewed, surveyed, and captured log data from principals in the 17 study districts. We describe each data collection effort below.

## Interviews

Interviews with state officials, district representatives, and principal preparation and development providers focused on the leadership improvement initiatives under way in each state and district, as well as the nature of the development of CLSs. Our protocols were designed to gather data on the following topics:

- Knowledge of the Foundation's work in education leadership
- Key policies and initiatives pursued to improve school leadership as they related to standards, pre-service preparation, licensure, evaluation processes, in-service PD, and conditions
- Initiative-specific strategies, alignment efforts, satisfaction level, enablers and hindrances, and sustainability
- Cohesion with respect to coordination, breadth of engagement, common vision, alignment, improvement efforts, and factors that enable or hinder cohesion
- The impact of these initiatives
- State and district constraints, competition with other student achievement improvement efforts, and unexpected negative consequences
- Recommendations for improving school leadership and building cohesion.

Further questions depended on the role of the individual interviewee in specific initiatives. Interviews lasted 60 to 90 minutes.

We used a set of indicators to guide the design of the interview protocols and analysis codes (see Appendix B for a complete list of these indicators). We used the indicator lists to question respondents about different types of actions that the literature suggests states and districts should be taking, such as providing internships as part of pre-service training; elements or strategies for cohesion; and supports or conditions for principals.

In each state, we interviewed members of organizations involved in the development or implementation of leadership improvement policies and initiatives, including staff of SEAs; state boards of primary, secondary, and higher education; and representatives of principals' associations and teachers' unions. In each district, we interviewed district leaders and administrators associated with principal selection, supervision, and support, as well as administrators overseeing curriculum and other academic operations.

State and district interviewees were identified in two ways. First, site visit teams conducted telephone interviews with the grantee of record (the organization receiving Wallace funding), if relevant, in each state and district. Grantees of record at the state level included SEAs, university centers, and professional associations. In districts, the grantee of record was typically the district central office. We asked members at each grantee of record to suggest interviewees in the state and district(s) who were involved in leadership development efforts.

We also interviewed a representative from the governor's office and/or from the legislature in each state, so that we did not have to rely solely on recommendations from Wallace grantees and to get a sense of how efforts to promote the development of school leaders across the state or within a district corresponded with broader efforts to improve student achievement. Similarly, in 15 of the 17 districts, we were able to interview someone from the superintendent's office and someone who oversees curriculum and instruction.

To capture principals' perspectives on the conditions that enable or hinder their leadership, site visit teams interviewed four to 10 principals in each district at the primary school, middle school, and high school levels. Our interviewees were district-defined "high-performing" principals. Although we initially asked districts to schedule interviews with a random selection of principals, we discovered in our first site visit that district contacts set up interviews with principals that they deem high-performing. We therefore decided to integrate this propensity into our research design. It is important to note that the selection of high-performing principals could lead to selection bias issues in our interview data, in that principals deemed to be lower-performing might perceive challenges to their job as well as conditions as different in nature and degree from those of higher-performing principals. Although we were unable to capture that information in the interviews, we assumed that the conditions highlighted by high-performing principals as hindering their work were likely obstacles to lower-performing principals as well.

The principal-interview protocol elicited detailed information on conditions at the school, district, and state levels and how those conditions enabled or hindered the principals' ability to improve or ensure student learning in their schools. Questions covered the following topics:

- The principal’s background and training experiences and their relevancy to his or her current role
- Experience with state and district programs or policies to improve school leadership as they relate to standards, pre-service preparation, licensure, evaluation processes, in-service PD, and conditions
- The degree to which the initiatives support leadership development and practice, whether they are aligned to state leadership standards, and whether they address the most critical issues facing the principal or his or her school
- Identification of critical leadership strategies and actions undertaken and which of them the principal prioritized
- Facilitators of and barriers to effective leadership, including (but not limited to) autonomy, sufficient support (with respect to data, curriculum, professional staff, recruitment and dismissal of teachers, and building parental and community engagement), allocation of resources, relationships with the local school council/board of education and teachers’ union, and school culture
- Recommendations for the state or district that might enable more effective school leadership.

The site visit teams conducted a total of 396 interviews. Table 2.3 shows the number of interviewees in each state. Numbers of interviewees varied according to the number of people and organizations involved in a site’s leadership improvement efforts.

### Survey

The survey enabled us to explore principals’ conditions and time spent on leadership practices across all the districts in our study. The surveys were administered online to

**Table 2.3**  
**Total Number of Interviews by State and Role**

State	State Officials	District Officials <sup>a</sup>	Principals	Training Providers	Total
Delaware	20	18 (3)	11	7	56
Georgia	9	13 (1)	4	1	27
Illinois	12	13 (2)	11	6	42
Indiana	7	8 (1)	7	6	28
Iowa	26	18 (3)	14	6	64
Kentucky	8	8 (1)	6	16	38
Massachusetts	13	15 (2)	11	1	40
Missouri	8	8 (1)	5	9	30
Oregon	11	14 (2)	19	3	47
Rhode Island	7	10 (1)	4	3	24
Total	121	125	92	58	396

<sup>a</sup>Numbers in parentheses indicate the number of districts in the study.

all the principals in our study districts between late May and mid-June 2008, corresponding with the end of the academic year of each district; follow-up efforts continued through September 2008. The survey instrument drew on the Foundation's CLS framework, literature on effective leadership practices, 1996 ISLLC standards,<sup>1</sup> and measures validated in other studies on leadership practices.<sup>2</sup> We asked principals to reflect on the 2007–2008 academic year when answering questions on district- and state-level support; conditions; time spent, and the appropriateness of the time spent, on a range of leadership practices; school culture and climate; and the amount and type of pre-service training the principal received prior to becoming a principal. We pilot-tested the survey with six principals and made adjustments based on those results.

We received a 40 percent response rate (624 out of 1,582). To adjust for potential differences due to nonresponse, we created weights that reflected response probabilities at the school level so that our responding sample would be representative of the entire population of principals in each district.<sup>3</sup> We used these weighted data in our survey analyses. We did not replace or impute missing data. A description of the administration of the survey, response rates by district, characteristics of the schools (including student performance), and weighting methodology is given in Appendix C.

### End-of-Day Logs

To gather more-detailed information on how specific conditions helped or hindered principals in their daily activities, we asked approximately 10 principals in each district (a total of 167 principals) to complete an end-of-day log at the end of each workday for one week in October 2008 and one week in November 2008; the logs were completed via the Internet. As we did for the principal interviews, we asked districts to supply us with names of effective principals. The log form asked principals to reflect on their working day and to report on the conditions that supported or hindered them from performing instructional leadership practices during that day. Appendix D presents details on the end-of-day log development and analysis.

Table 2.4 summarizes the primary data sources used to address our first six research questions.

---

<sup>1</sup> The 2008 ISLLC standards were not available at the time the survey was developed. However, we performed a validity check to ensure that the 2008 ISLLC professional standards were covered in our survey.

<sup>2</sup> We used questions from a survey developed for a RAND study on new leaders for new schools (publication in progress).

<sup>3</sup> Responding principals were more likely to work in schools that had significantly higher reading and mathematics test scores and lower percentages of minority students and students receiving free or reduced lunches than the schools of nonresponding principals. The differences between responding and nonresponding principals were accommodated through our weighting methodology, as explained in Appendix C.

**Table 2.4**  
**Research Questions and Primary Data Sources**

Research Question	Data Source
1. What policies and initiatives have states and districts pursued to improve school leadership?	<ul style="list-style-type: none"> <li>• State interviews</li> <li>• District interviews</li> </ul>
2. How are districts and states interacting to improve school leadership?	<ul style="list-style-type: none"> <li>• State interviews</li> <li>• District interviews</li> </ul>
3. To what extent have sites built cohesion among these policies and initiatives?	<ul style="list-style-type: none"> <li>• State interviews</li> <li>• District interviews</li> </ul>
4. How have sites built CLSs and why have some sites been more effective than others?	<ul style="list-style-type: none"> <li>• State interviews</li> <li>• District interviews</li> </ul>
5. How are sites attempting to scale up and sustain their work?	<ul style="list-style-type: none"> <li>• State interviews</li> <li>• District interviews</li> </ul>
6. Do we find support for the CLS hypothesis?	<ul style="list-style-type: none"> <li>• Principal surveys</li> <li>• Principal end-of-day logs</li> <li>• Principal interviews</li> </ul>

## Analytic Approach

### What Policies and Initiatives Have States and Districts Pursued to Improve School Leadership?

To answer this first research question, we analyzed data from the interview notes in a multistep process. When researchers returned from the field, they compiled their notes in summaries with separate thematic areas (e.g., “state policies and initiatives” and “strategies for building cohesion”). They wrote one summary for each state and separate summaries for each district. The summaries were reviewed by all team members and discussed in a debriefing meeting for each site. The thematic areas were each compiled into Atlas.ti<sup>4</sup> as separate reports. For example, one report detailed all 10 sites’ policies and initiatives. Another report focused on strategies for building cohesion. These reports were analyzed and summarized into tables which each site leader checked for accuracy. For additional verification, a representative from each of the 27 study states and districts was invited to review a draft version of this report for comment. Throughout our analyses, we tracked multiple stakeholder perspectives and examined refuting evidence, placing notes in the text identifying any point on which there were divergent views.

### How Are Districts and States Interacting to Improve School Leadership?

We analyzed the site summaries to identify patterns across the 10 study sites on whether the district or the state was taking the lead role in improving student achievement. We

<sup>4</sup> Software for qualitative analysis of large bodies of data.

also examined how districts and states were learning from each other to improve their initiatives. Finally, we analyzed the site summaries to identify individuals and organizations taking lead roles at the district and state levels.

### **To What Extent Have CLS Sites Built Cohesion Among Policies and Initiatives?**

We analyzed the site summaries to ascertain the extent to which sites were building a CLS by mapping efforts for only the six sites determined by the Foundation to be making progress toward the goal of building a CLS. On the basis of the Wallace model and the broader literature, we identified five dimensions of cohesion:

- *Comprehensiveness* of the six leadership policy areas that made up the core efforts of states and districts to improve school leadership (i.e., standards, pre-service and recruitment, licensure, evaluation, in-service, and improving conditions)
- *Alignment* of policies and practices within and between levels of the system (state and district)
- *Engagement* of relevant stakeholders in the development and implementation of the CLS
- *Agreement* among stakeholders regarding how to improve school leadership.
- *Coordination* that promotes alignment, engagement, and agreement around leadership development initiatives.

To address the first dimension, comprehensiveness, we analyzed the extent to which sites had developed policies and initiatives across the six policy areas. The sites designated as more comprehensive were implementing more policies and initiatives and/or were focused on the continuum of leadership (from ensuring a steady pipeline of principals to principal retirement) and the breadth of school leaders (ranging from leaders within schools, such as teacher leaders or administrative staff, through higher-level district or state school leaders, such as school board members). For example, while two sites may have taken concrete actions to improve pre-service education, a site that employed a combination of approaches to spur redesign of all preparation programs in the state would be rated higher on comprehensiveness than a site that relied on school district partnerships alone to try to influence local pre-service programs.

We next looked for evidence of policies, programs, and approaches that promoted alignment among components of the system and between state and district practices. We looked for evidence of alignment across initiatives and levels (or no significant evidence of misalignment). Sites designated as building a CLS through engagement, agreement, and coordination met the following criteria: consistent reports that most relevant stakeholders were involved in initiative design and/or implementation; consistent reports that there was broad agreement on the importance of leadership and on the approaches to improving it (including consensus reached after earlier disagreement); and evidence that an organization and/or individual actively coordinated across initia-

tives and between state and district programs and practices. Throughout our analysis, we again noted patterns of discord, as well as disconfirming evidence.

### **How Have Sites Built CLSs and Why Have Some Sites Been More Effective Than Others?**

To better understand how states and districts built CLSs, we analyzed the state and district interview data that described strategies for building cohesion and contextual factors enabling or hindering states' work in this regard. To determine patterns, we compared the more advanced CLS sites against all the other sites.

### **How Are Sites Attempting to Scale Up and Sustain Their Work?**

We used state and district interview data to document how sites were attempting to scale up and sustain their work. To answer the question, we mapped the challenges and sustainment strategies reported by interviewees.

### **Do We Find Support for the CLS Hypothesis?**

Our ability to answer this question was limited. We focused on the relationship between favorable conditions facing principals (e.g., access to data, sufficient resources) and the time they spent on instructional leadership (and how satisfied they were with this allocation of time). To understand whether favorable conditions were positively related to instructional leadership practices, as posited by the CLS hypothesis, we analyzed the responses on the principal surveys to questions about conditions encountered in their daily work lives and the amount of time spent on specific instructional leadership practices over the course of the 2007–2008 academic year. We focused on key conditions drawn from the literature and the Wallace model, and we created four indices based on our data: the nature of state and district data; adequacy of resources; level of autonomy; and the nature of district-provided evaluations, PD, and other tools. We analyzed responses on four survey questions to measure the remaining conditions: alignment of governance roles and responsibilities; fragmentation, misalignment, or burden of policies; quality of administrative staff in the school; and district provision of administrative support to the principal.

We also created nine indices of instructional leadership practices, organized around three broad categories: the development and implementation of strategic goals and school improvement efforts; supporting the instruction of students; and promoting the development and leadership of the school's teachers and staff. These indices were based on recent studies researching the leadership practices that are most effective in supporting instruction and student learning in schools and on Wallace's CLS hypothesis. Details on the survey questions used to create the indices and the construction of the indices are given in Appendix E.

To better isolate whether there is a relationship between conditions and instructional leadership practices, we conducted regression analyses that controlled for reading

proficiency levels of the students in the school, the percentage of economically disadvantaged students, total student enrollment, the percentage of African-Americans in the student body, and the grade level of the school. We included the principal's district in each analysis and controlled for the principal's years of experience in the school. Results of the regression analyses are given in Appendix F. Finally, to illustrate the relationship between conditions and principals' reported leadership practices, we provide some sample responses from the interviews and from the open-ended questions on the surveys and logs in the discussion in Chapter Eight.



## Policies and Initiatives Taken to Improve Leadership

---

The Wallace Foundation's CLS hypothesis asserts that districts and states should take actions to support leadership improvement in three key policy areas: standards, training, and conditions and incentives (The Wallace Foundation, 2006). Based on the literature and our early examination of the study sites, we expanded this grouping to six policy areas: standards, pre-service and recruitment, licensure, evaluation, in-service, and conditions. We examined the 10 states and 17 districts separately to detail the types of policies and initiatives implemented at both levels, then we drew some comparisons among them. As expected, there was a good deal of variation across sites. Some sites, for example, pursued multiple initiatives; others focused on just a few. Some sites pursued an aggressive strategy of reform; others chose a more limited approach.

We did not try to evaluate progress on the basis of the number and type of policies and initiatives the sites were pursuing. For example, it is likely that some sites that focused on fewer actions may have been implementing them in ways that affect a greater number of school leaders. We also did not try to measure the quality or impact of particular initiatives but focused instead on describing them in all their diversity.

### Types of Policies and Initiatives

#### Standards

States and districts in our study tended to pursue the following initiatives with regard to leadership standards: setting statewide standards, updating standards, and broadening the positions addressed by standards.

**Setting statewide standards.** All 10 states had statewide leadership standards that were aligned with national standards. Some states, including Delaware and Rhode Island, simply adopted the ISLLC standards. Most others created their own standards based on the ISLLC standards. (One exception was Oregon, which based its standards on the national Educational Leadership Constituent Council standards.) Some states engaged in an iterative process to gather input from various stakeholders to create standards. For example, the School Administrators of Iowa used funding from the Foundation to convene a group of approximately 95 superintendents in September 2006

to review draft standards and criteria in light of recent Mid-Continent Research for Education and Learning findings on superintendent behaviors that are correlated with high student achievement. A second group of about 35 principals and superintendents met in October 2006 to continue the process and to finalize agreed-upon standards and criteria.

Although all states had statewide standards, five of the 17 districts we studied chose to draft their own district-level standards or competencies. Most of these standards were based on the state standards but provided further district-specific elaboration.

**Updating standards.** Most of the states that based their statewide leadership standards on the ISLLC standards had updated or were in the process of updating them to align with the new 2008 ISLLC standards.

Three districts were providing significant input into the revision of the state-level standards. According to both state and district respondents, Jefferson County's district-level work in adding specifications to standards was highly influential in initiating the statewide revision effort. In Massachusetts, two representatives from Boston and three from Springfield were key members of a state-level team charged with revising the state standards.

**Broadening positions addressed by standards.** Five of the 10 states were broadening the positions addressed by leadership standards. Three states were attempting to specify standards for master principals or others who mentor or coach principals. The standards sent to the Rhode Island Board of Regents in November 2008 for approval covered a continuum of school leaders, including principals, central office administrators, building administrators, teacher leaders, department chairs, and any educator with leadership responsibilities. No districts reported broadening positions addressed by standards (although Boston and Springfield were assisting the state in thinking about how to do this).

### **Pre-Service and Recruitment**

Many states and districts were reforming their pre-service programs to better align them with their standards for leadership and districts' needs. States and districts tended to pursue the following types of pre-service and recruitment policies and initiatives: sunseting accreditation for pre-service programs and requiring programs to reapply for accreditation; collaboratively redesigning pre-service programs; creating alternative preparation programs; offering training and experiences aimed at increasing interest and knowledge about the principal position; and improving recruitment efforts.

**Sunset policies.** Some states, including Georgia and Iowa, sunset all pre-service leadership programs, thereby forcing them to reapply for accreditation. The Iowa Department of Education and State Board of Education jointly decided to sunset all leadership programs in 2004 after a task force determined that the programs were not producing high-quality leaders. States taking this action viewed it as necessary, because they had found that without this type of accountability, universities were

reluctant to reform their programs. Some interviewees said that universities did not have incentives to improve the rigor of their programs because it might discourage candidates from enrolling and completing them, thereby decreasing revenue. Others reported that individual professors who were used to autonomy in designing programs did not have incentives to revise their structure and content. Sunsetting policies was intended to address both types of concerns by providing the incentive for change.

**Collaborative redesign of programs.** Another way in which districts and states attempted to improve pre-service programs was through collaborative efforts to redesign them. In Oregon, representatives from eight pre-service programs decided to work together, and in 2003 they formed a nonprofit group called the Oregon Professors of Educational Administration to craft new standards for their programs. The group is a state affiliate of the National Council of Professors of Educational Administration. At the district level, Jefferson County collaborated with the University of Louisville to redesign its principal preparation program to be more aligned with dimensions of effective leadership espoused by the Southern Regional Education Board (SREB), The Wallace Foundation, and ISLLC. This redesign effort was later expanded statewide.

**Alternative preparation programs.** Both districts and states were attempting to improve pre-service and recruitment by creating new preparation programs. These programs sometimes replaced traditional pre-service programs, and many were designed to meet specific district needs. For example, since 2003, Boston has operated a “grow-your-own” principal preparation program called the Boston Principal Fellowship program. The program includes 90 days of coursework and full-year residency with a Boston principal four days per week. Participants commit to three years with the Boston Public Schools after completion of the program. The curriculum is taught by school system staff, higher education faculty, and community leaders and targets knowledge the participants need to be a principal in the Boston school system. Several other district-based alternative programs similarly include targeted recruiting, district-specific curriculum, and residency components. Some of these programs gained the ability to license their graduates, and some became a much more common pathway to becoming a principal than local university-based preparation programs.

**Increasing interest in and knowledge about the principal position.** At least three districts offered pre-service PD programs for teacher and school leaders (other than principals) to expose them to and prepare them for leadership opportunities. For example, the Instructional Leadership Institute in Boston is a non-licensure program for school-based administrators and teacher leaders designed to develop their leadership potential and skills. In Springfield, MA, teachers can apply to be either “instructional leadership specialists” or “teacher leaders,” to serve as demonstrators, co-teachers, and coach/mentors. These programs typically aim not only to build current leadership skills that can be applied in school and teacher leader roles, but also to generate interest in pursuing a principal position.

Interviewees described other programs that were more explicitly aimed at building interest in becoming a principal. These programs provided PD for school leaders (such as teacher leaders and coaches) that served as an introduction to the principal position, and some provided opportunities for participants to shadow principals. For example, Fort Wayne offered an investigative series that provided opportunities for individuals with an interest in an administrative career to meet with current school leaders to explore “just what principals do.” The investigative series involved voluntary quarterly after-school meetings and one day of release time to shadow a principal.

**Targeted recruitment and succession-planning efforts.** Another action taken by districts—often in conjunction with some of the pre-service programs described above—was targeting recruitment of particular individuals or programs. This approach was utilized by just over half of the districts we studied. In some cases, it involved recruiting graduates from particular pre-service programs. For example, many districts gave hiring preference to individuals who had participated in the district-based pre-service program. The instructors in many of these programs were district personnel who were familiar with the students and were able to target recruitment efforts toward the strongest ones.

In other cases, particular teachers or school leaders within the district who had demonstrated leadership potential were identified and encouraged to enter a pre-service program. Appoquinimink carefully selected promising leaders from among its teachers and encouraged them to apply for the Appoquinimink Aspiring Administrators program.

Across these different types of pre-service policies and initiatives, districts and states incentivized programs to be more selective, provided more context-specific curriculum, included internships, and addressed new research-based notions of what leaders need to know and be able to do, such as engage in instructional leadership and develop cultural competencies.

### **Licensure**

Changing licensure policies was another approach highlighted by the literature and our respondents for both improving the quality of school leaders and providing alternative pathways to leadership positions. We found that these policy changes were pursued exclusively by states. In Massachusetts, the Boston and Springfield districts, however, were also granted the ability to license graduates of their own district-based preparation programs. Some states had changed or attempted to change their licensing structure. For example, Indiana eliminated the elementary and secondary school distinction; Rhode Island tried to remove grade-level distinctions, but it failed. Oregon reduced the number of levels of administrative licenses from three to two and increased the experience requirements for the second level. Similarly, at least four other states created a continuum of licenses to specify at least two, and sometimes three, levels for the principal license. Delaware instituted a three-tier system that provided initial, continuing, and

advanced licenses. Rhode Island provided a school leader license, Kentucky provided a teacher leader endorsement, and Illinois provided a teacher leader license and a master principal license.

Some states reformed their licensure systems by revising the requirements for initial licensure and relicensure. Indiana, Iowa, and Oregon revised their requirements to align with the new ISLLC leadership standards. At the time of our data collection, the Georgia legislature was considering performance-based requirements for relicensure, and Massachusetts was considering revising licensure requirements to align with newly drafted standards.

Finally, some states created alternative licensure routes. Illinois created an alternative route to an administrator license for National Board Certified teachers, and Delaware created an alternative route for teacher leaders. As mentioned above, Massachusetts granted approval for the alternative licensure routes created by the Boston and Springfield school districts. These routes were created to increase competition among traditional preparation programs and also to provide additional routes to becoming a principal, reducing barriers to this role.

### **Evaluation**

During the time of our study, many study states and districts were pursuing policies and initiatives for evaluating leaders. Although the CLS hypothesis emphasizes evaluation as an important condition, respondents also highlighted it as an important policy lever they could use to directly improve leadership. Georgia, Illinois, Kentucky, and Iowa were requiring that all principals in the state be evaluated, but they did not require a specific approach (although they did supply models and guidelines to assist in this process). This was noteworthy given that principals are often evaluated infrequently or not at all (Usdan, McCloud, and Podmostko, 2000). Some states and districts were creating or implementing a common evaluation system. For example, Delaware developed the Delaware Performance Appraisal System (DPAS II) for administrators, which is designed to measure progress according to the ISLLC standards. To rate principals, evaluators review evidence submitted by the principal; outcomes of three conferences (goal setting, formative, and summative) between the principal and the evaluator; survey data from principals, teachers, and evaluators; and student achievement and growth data from state and local assessments. This evaluation system was being used by the three districts we visited in Delaware.

Some states and districts were either creating or making available an evaluation tool. Several sites, including Jefferson County, were piloting the Vanderbilt Assessment of Leadership in Education (VAL-ED) leadership assessment tool. Funded by The Wallace Foundation and created by Vanderbilt University, VAL-ED utilizes a multirater, evidence-based approach to assess school leadership behaviors that research has demonstrated influence teacher performance and student learning.

In the process of revising evaluation processes and tools, several states and districts were shifting the focus of evaluation to be more supportive of professional growth. For example, new administrators in Iowa must be evaluated at least once every three years to ensure continuous improvement. The evaluation process is intended to support growth toward goals outlined in individual professional growth plans.

### **In-Service Professional Development**

Both states and districts provided PD for practicing leaders, including programs, mentors, coaches, and networks to support professional growth.

**PD programs.** Almost every state and district provided some kind of PD program; several were cohort-based, i.e., a group of individuals—such as school-based or district-based teams—went through a program together. Massachusetts made a national instructional leadership program, the National Institute for School Leadership (NISL), available to all principals in the state. This intensive program required participants to attend two days of training every month for a year and a half. The program primarily targeted principals, but districts were encouraged to attend as leadership teams that included central office staff. Several states and their affiliated districts also participated in one of two national programs sponsored by The Wallace Foundation. The Executive Leadership Program for Educators at the University of Virginia is a collaborative effort of The Darden Graduate School of Business Administration and the Curry School of Education. Harvard University's Executive Leadership Program for Educators (ExEL) is also a collaborative effort, offered through the Harvard Business School, the Harvard Graduate School of Education, and the John F. Kennedy School of Government. Both programs have recruited teams of state, district, and school leaders to focus on pressing problems facing education leaders. The programs are explicitly trying to improve the ways in which states and districts work together to address these challenges.

**Mentors.** Almost all study states emphasized mentoring for new principals for their first year or two. Several states required districts to provide mentors to new principals. Others administered the mentor program, and districts enrolled their principals in it. In Iowa, districts were able to provide their own programs, but most opted into the statewide program. At least three states also provided mentoring to several different types of school leaders, including superintendents, district office staff, and assistant principals.

**Coaches.** Some states and districts provided coaches, in addition to mentors. Coaches often provide more-intensive guidance regarding how to operationalize ideas from PD programs. For example, Massachusetts provided coaches to support principals and superintendents in implementing ideas from the NISL training it provided to all districts and principals.

**Networks.** Some states and districts attempted to support professional learning by organizing networks of school and/or district leaders to support each other's learning, often as part of a professional learning community. Leaders in Kentucky scaled

a program developed by Jefferson County Public Schools, the Kentucky Instructional Leadership Team Network. This network supported schools and districts in the development and operation of instructional leadership teams that operated as “professional learning communities.” These learning communities supported principals, as members of school-based teams, in learning about instructional strategies and interventions. Massachusetts organized its own Urban Superintendents’ Network, which has reportedly functioned as a professional learning community to study and address challenges faced by urban districts in the state.

### **Improving Conditions**

The CLS hypothesis asserts that if states and districts collaborate on policies and practices that improve conditions for principals, these conditions will support principals’ ability to enact effective leadership practices. Conditions include the provision of timely data to inform leaders’ decisionmaking; sufficient authority to reallocate people, time, and money; and resources according to students’ needs. In Chapter Six, we explore conditions from the principals’ perspective. Here, we provide information on how states and districts were attempting to improve data, autonomy, and resource conditions for school leaders.

**Providing necessary data to inform leaders’ decisionmaking.** The majority of sites indicated that they had student-data systems in place and that they encouraged principals to use the data to make decisions. All states had systems that reported at least school-level state assessment results. Respondents, however, had different views on whether their systems provided sufficient, timely, and useful data. Some interviewees stated that their district had worked to provide data to principals by creating an interim assessment system. Others in the same district, however, reported that the system was an “antiquated pencil and paper system” that provided results six to eight weeks after the assessment, when students were already preparing for the next assessment.

At the time of our study, we found that some sites were actively attempting to make data more useful by improving alignment between curricula, standards, and assessments; reporting data at the individual student level; creating data-dashboards to facilitate comparison; and providing results of interim assessment data immediately. Iowa was in the process of developing an end-of-course assessment aligned with the new state curriculum and had recently started to provide state assessment results at the individual student level. Oregon had recently created an online adaptive state student assessment system that would provide teachers with instant results. Delaware was able to capitalize on its long-standing longitudinal data system and warehouse, and Massachusetts was in the process of launching such a system. States and districts were also providing additional types of data (such as survey data in Jefferson County), processes for collecting and analyzing data (such as the balanced scorecard strategic planning process in Delaware and Fort Wayne, school improvement planning processes in Fort Wayne and Springfield, MA, and walkthroughs in Kentucky and Portland),

and PD and/or technical assistance on how to analyze and use data (such as school improvement coaches in Springfield, IL, who guide data-driven decisionmaking).

**Providing leaders with sufficient autonomy.** We asked our interviewees to describe the policies and initiatives in their site that would affect principals' autonomy, i.e., initiatives that would have the effect of either expanding or limiting principals' authority.

Respondents differed in their opinion of whether levels of principal autonomy were problematic or not. Respondents from just fewer than 20 percent of the districts said that principals already had sufficient autonomy, suggesting that there was not a need for district or state policies to increase autonomy in their sites. However, respondents in 24 percent of districts told us that policies governing principal authority continued to be important impediments to principals' ability to be effective.

Twenty-four percent of the districts in our study had attempted to increase principal autonomy. For example, Boston had created a "pilot schools" program, in which schools apply to become pilot schools, where principals are given complete control over decisions regarding budgets, curriculum, and staffing.

Respondents in some of the sites indicated that there were problems regarding the success of their respective efforts to improve autonomy. For example, Massachusetts decided to replicate the Boston pilot schools program across the state. However, we were told that pilot school principals in Springfield had not received all of the promised autonomy. In Davenport, Iowa, the superintendent tried to modify the process by which teachers were assigned to schools to give principals more authority but was not able to make the required change to the teachers' contract. Interviewees in Indian River, Delaware, expressed concern that principals still do not have sufficient autonomy despite efforts to address these issues.

At least three states had attempted to influence principal autonomy indirectly by organizing training for school board members that encouraged them to focus on setting policy directions and discouraged them from interfering with decisions that principals should be making.

**Allocating resources according to student needs.** Three states and three districts had instituted weighted student formulas or other policies to allocate resources in accordance with student needs. Other sites were acting to improve resource conditions by allocating resources for additional leadership personnel, such as school administration managers (SAMs),<sup>1</sup> who assume traditional managerial responsibilities so that principals can reallocate their time in ways that better meet students' learning needs. Georgia created a \$15,000-per-year salary incentive for high-performing principals to move to high-needs schools.

---

<sup>1</sup> The idea for and implementation of SAMs began in JCPS.

## Comparison of Policies and Initiatives Across Sites

The policies and initiatives taken by the sites differed in focus, scope, stage of implementation, and the degree to which they challenged the status quo. We elaborate on these distinctions below.

### Focus of Policies and Initiatives

Table 3.1 summarizes the widespread differences among initiatives in the sites we studied.<sup>2</sup> The most common policies and initiatives concerned standards (typically at the state level), pre-service and recruitment (typically at the district level), and in-service (at both the state and district levels). We found that a majority of the states were pursuing standards, the majority of districts were pursuing pre-service and recruitment policies and initiatives, and the majority of both states and districts were providing in-service support. These may have been the most common because they were the same sort of policies and initiatives that districts and states had pursued in the past, and they therefore experienced little resistance. Licensure policies were addressed only at the state level, and they were usually addressed via licensure restructuring. This finding was not surprising given that states are typically more likely than districts to have licensing authority. Most of the states did not pursue leader evaluation policies and initiatives, but most of the districts did. Again, this pattern may have simply indicated that districts are traditionally more likely than states to evaluate principals. Finally, sites varied considerably in the attention they were giving to improving certain conditions for leadership. About half of the states were working on providing necessary data to inform leaders' decisionmaking and targeting resources according to student needs, but fewer were focused on enhancing leader autonomy. Most districts were focused on providing necessary data, but fewer were pursuing efforts related to issues of providing autonomy or allocating targeted resources. This may have in part reflected the fact that state and district officials—and the broader education field—lack consensus on the extent and type of resources and autonomy principals need to be effective. Our respondents often offered differing views on this issue. If individual stakeholders have different visions of what is needed, this might affect their ability to work together to improve conditions.

### Scope of Policies and Initiatives

Policies and initiatives differed not only in their focus, but also in their scope and ambition, as measured by the breadth of groups targeted by the actions, the number of initiatives pursued, and the number of people served by the initiatives.

---

<sup>2</sup> Separate results are not reported for aligned-system and leadership-network sites, because when we compared the types of policies and initiatives that were being pursued by these two types of sites, we did not find any differences. But the answers to our questions on how sites were attempting to improve conditions were not precise, which may have resulted in policies and actions appearing to be more similar than they really were.

**Table 3.1**  
**Differences Among District and State Policies and Initiatives to Improve Leadership**

Policy/Initiative	States	Districts
<b>Standards</b>		
Setting systemwide standards	Majority of sites	Some sites
Updating standards	Majority of sites	Some sites
Broadening role groups	About half of sites	No sites
<b>Pre-Service/Recruitment</b>		
Sunsetting pre-service programs	Some sites	No sites
Collaborative redesign of pre-service programs	About half of sites	Some sites
Establishing or maintaining alternative pre-service programs	About half of sites	Majority of sites
Offering training and experiences aimed at increasing interest and knowledge about principalship	No sites	Some sites
Targeting recruitment efforts	Some sites	Majority of sites
<b>Licensure</b>		
Changing the licensure structure	Majority of sites	No sites
Creating licensure requirements	Some sites	No sites
Creating alternative licensure routes	Some sites	No sites
<b>Evaluation</b>		
Creating a common evaluation system	Some sites	Majority of sites
Creating or providing evaluation tools	Some sites	Some sites
Shifting the focus of evaluation to be more supportive of professional growth	Some sites	Some sites
<b>In-service</b>		
PD programs	Majority of sites	Majority of sites
Mentors	Majority of sites	Majority of sites
Coaches	Some sites	Some sites
Networks/professional learning communities	Majority of sites	Majority of sites
<b>Conditions</b>		
Providing necessary data to inform leaders' decisionmaking	About half of sites	Majority of sites
Providing leaders with sufficient autonomy	Some sites	Some sites
Allocating resources according to student needs	About half of sites	Some sites

**Range of positions targeted by actions.** Some policies and initiatives were more ambitious than others in that they were directed at a range of leadership personnel in addition to principals. Some actions targeted teacher leaders, school administrators, district officials, superintendents, and/or school board members. In general, teacher leaders were more likely to be targeted by pre-service efforts, and superintendents and district office staff were more likely to be targeted by in-service efforts. Some sites, including Massachusetts and Delaware, tended to pursue policies and initiatives that consistently targeted a broad range of personnel.

**Comprehensiveness of actions.** Some policies and initiatives were considered to be ambitious because they were components of a broader set of policies and initiatives that were bundled together. The first phase of the Wallace funding in Delaware was used to pursue a set of policies and initiatives that addressed several areas. These efforts included revising the licensure and certification system, adopting the ISLLC standards, funding a leader mentoring program and assessment center, revising the leader appraisal system, creating the annual Delaware Policy and Practice Institute, and expanding the Aspiring School Leader Internship Program. This was a much more comprehensive approach than that taken by Massachusetts, where the first phase of funding was primarily focused on one policy area, in-service development.

**Number of people served.** Some policies and initiatives attempted to reach greater numbers of people than others. This was particularly true of pre-service and in-service programs. One alternative district-based pre-service program served only 15 individuals, while another served 80. Similarly, some states offered PD programs that served between 50 and 100 participants. At the time of our study, the NISL program in Massachusetts had trained over 790 individuals. Some initiatives were offered only to a pilot group, while others were offered districtwide or statewide. For example, the Oregon Leadership Network (OLN) intentionally served teacher leaders, school leaders, central office leaders, state agency leaders, stakeholder leaders, and higher education leaders.

#### **Stage of the Initiative**

Some policies and initiatives were further along in implementation than others; some were still in the design stage, while others had been fully implemented for years. Several of the evaluation systems and tools, including DPAS II and VAL-ED, were being piloted at the time of our data collection. Similarly, some states had implemented statewide standards aligned with ISLLC standards only within the last year or two, while Delaware, for example, had had ISLLC standards in place since 2002. Some programs, such as Chicago's system of local school councils and Boston's pilot schools, have been in place for years. As such, some policies were more mature and had already had a significant impact on the way principals were recruited, prepared, and supported.

#### **Challenge to the Status Quo**

Policies and initiatives also varied in the amount of change they required. Some sites boldly challenged the status quo, while others went after what they called "low-hanging fruit." For example, the policy of sunseting all pre-service programs in Iowa was an aggressive move that required substantive changes across many organizations within two years. Efforts to redesign pre-service programs in Massachusetts, on the other hand, did little to challenge the status quo. There, pre-service programs could voluntarily use a gap-analysis tool to self-identify areas where their program did not align with state standards for leadership. While our interview respondents hoped

that all pre-service programs would eventually use the tool and revise their programs accordingly, this initiative was certainly less challenging to the status quo than a sunset policy that specified clear consequences for failure to act.

## Conclusions

As we have shown, a great deal is being done at both the state and district levels in the sites we studied to improve policies and initiatives that influence instructional leadership, and states and districts appear equally capable of launching initiatives. Although states were more often responsible for certain policies, such as setting standards and licensure regulations, districts often took steps to influence those standards, set their own standards, or specify how state standards should be applied in their local context. We also found some signs that state and district roles may be converging. Some of the districts, for example, were entering into partnerships with universities to improve pre-service programming, a realm once confined to state authority. And some of the states had mandated mentoring for all new principals, a role traditionally assumed by district officials.

We made no attempt to evaluate the effectiveness of the initiatives but focused instead on describing what they were and how they differed across sites. According to the CLS hypothesis, a wide range of policies and initiatives must be in place before a CLS can be developed, and we found evidence that all the sites we studied had taken steps in this direction, although some pursued more reforms—and more wide-ranging reforms—than others. In the following three chapters, we describe how states and districts have worked together to create greater cohesion among these efforts. We begin by highlighting the different roles states and districts played in improving school leadership; we then analyze the levels of cohesion achieved in six sites; and finally, we describe the strategies and local contexts that appeared most conducive to system-building.

## Variations in State and District Roles in Improving School Leadership

---

Our investigation of whether states or districts tended to take the lead in efforts to improve school leadership found that districts took the lead in some cases, with little involvement from the state, and state agencies took the lead in other cases. Regardless of which pattern prevailed, some states were willing to identify and promote innovative efforts by what they termed “lead learner districts.” In some sites, no clear leader had emerged. In Missouri and Rhode Island, for example, the districts’ efforts at leadership improvement were limited, with few initiatives and therefore few scale-up opportunities. In Rhode Island, state agencies had seeded local innovation by funding district initiatives but had not yet created the infrastructure to monitor, evaluate, identify, or promote promising practices.

### Districts as Leaders

Some larger districts developed their own leadership improvement initiatives with limited state oversight or involvement. Although district efforts could potentially lead to inefficiencies if multiple districts in a state design their own programs for such tasks as preparing new principals, district-led initiatives may be the only option in some states. Efforts by districts to lead school improvement initiatives appeared to stem from necessity, i.e., where the state had limited capacity to lead. These districts held leadership to be essential to broader school improvement efforts.

Two districts in particular, Atlanta and Fort Wayne, actively pursued leadership improvement before the state got involved. In both cases, the state played a limited supportive role and reportedly did not hinder district efforts. Within these two districts, leadership for school improvement initiatives was led by directors or managers of leader training and development. Indeed, in the majority of the study districts, efforts to improve school leadership were led by a director of professional development.

Fort Wayne Community Schools had taken up the mantra “leadership second only to instruction” and had invested considerable attention in developing school and district leaders. The emphasis on leadership was evidenced in all respondent interviews.

We also noted it while analyzing district leaders' presentations to the school board and the elaborate system they had implemented to support leader development. The cornerstone of this system was a series of leadership academies addressing the development of aspiring, novice, and practicing leaders. Fort Wayne Community Schools also aimed to influence the preparation of aspiring leaders through a partnership with Indiana University–Purdue University, Fort Wayne. The ongoing partnership between the district and the university sought to shape the curriculum to be responsive to the district's needs.

The Fort Wayne district embraced the notion of a cohesive leadership system at the district level by developing the Aligned System of Leadership Development standards, which were based on the state and ISLLC standards but enhanced to reflect an urban leadership context. The standards included a rubric that rated leadership behaviors at performance levels ranging from unacceptable to proficient and guided leader development and evaluation. The district also embraced a notion of distributive leadership and had created quality improvement teams that engaged teacher/staff leaders in a school improvement process that used the Balanced Scorecard tools. District leaders had worked closely with local stakeholders such as the principals' association, the teachers' union, and the school board to ensure a common focus on leadership and instructional improvement.

The district had had few interactions with the state regarding leadership improvement. The district tried to partner with state-level Wallace grantees earlier, but fragmented governance and turnover in grant leadership presented barriers to collaboration. In general, the district had ensured compliance with state requirements but had been pursuing its own leadership improvement initiatives, which the state did not direct.

The Atlanta Public Schools (APS) also functioned with little state support as the SEA rebuilt capacity after a period of tumultuous leadership under the previous chief state school officer (CSSO). At the time of our visit, the new CSSO had been successfully mending fractured relations between the SEA and other state agencies, as well as with districts. Nonetheless, Atlanta had largely gone about its own leadership improvement efforts as part of its vision for improving district performance.

Atlanta's superintendent has had the support and backing of her board in her pursuit of reforms. In this right-to-work state, teachers' and principals' organizations have not objected to actions that in other states might have been more problematic, in particular, the firing of many staff. Most notably, the APS superintendent changed the district culture concerning both leadership—people came to understand that leadership positions had to be earned—and accountability—leaders at all levels understood that poor performance could cause them to lose their positions. The superintendent's actions in her early years reinforced these messages: Principals who did not demonstrate commitment to the district's vision and/or consistently failed to meet student learning targets were removed. The district introduced a school performance intervention pro-

cess that principals had to agree to if their school was not meeting performance targets. Principals who did not buy into the district's vision and make efforts to improve could be removed. In addition, they would be removed if they consistently failed to meet performance targets despite interventions and district support. APS interviewees reported that improving school leadership was a critical lever for meeting the district's student performance goals. Only those school leaders who were willing to meet these goals and capable of doing so had been encouraged to remain. We were told in an interview that 89 percent of principals had left since the current superintendent arrived; many had decided to retire, but others were removed over the years for not meeting performance targets. Principals who were removed were not reassigned; once the district dismissed them for poor performance, they could not assume another principalship.

The superintendent also initiated a number of structural reforms and programs to build school leadership capacity. She created school reform teams (SRTs), leadership groups responsible for student outcomes in clusters of 14 to 22 schools. Each SRT included a group of educational coaches and model teacher leaders with subject-specific expertise, and all focused on supporting instructional leadership. The district also put principal performance targets in place and had issued a set of 26 best teaching practices that formed the basis of principal instructional support. The district also ran a superintendent's academy for people who already had principal certification, designed "to increase the leadership quotient of the principals we already have." In general, principals received a wide range of PD, including monthly SRT training, an annual leadership retreat, focused training on data use provided by the Research, Planning and Accountability Office, and a mentor in their first three years on the job.

To address the district's need for future school leaders, APS established the Aspiring Leaders Program, a one-year program for working teachers who wished to attain a leadership position. This program led to certification and was jointly administered with Georgia State University. The Superintendent's Academy for Building Leaders in Education was developed by APS for people who already had principal certification. This program was designed "to increase the leadership quotient of the principals we already have," emphasizing key elements of leadership, such as team-building, data-based decisionmaking, and strategic planning.

Atlanta's leadership framework is improved upon each year. Interviewees noted that leadership improvement is a process, and each year builds on what they learned the year before.

## **States as Leaders**

In Delaware and Iowa, leadership improvement efforts were primarily state-led, although districts were often involved in planning committees or working groups. Dis-

tricts in these states were not receiving funding from The Wallace Foundation, which may have served to elevate the state's role.

In both states, leadership for the CLS work was spread over multiple organizations. In Iowa, the placement of the Wallace grantee of record in the administrators' association propelled the association to a new level of activity in pursuing leadership improvement. The School Administrators of Iowa took the lead in developing leadership standards and modules for evaluating school leaders and superintendents, and through the grant resources, provided funding for programs such as SAMs. The Iowa CSSO was a highly capable leader who was credited with pushing for the redesign of the administrator pre-service system. The Iowa SEA was prominently involved in leadership initiatives to improve school leadership as well. Most, but not all, interviewees in Iowa credited the SEA with having had capacity to spearhead school leadership initiatives, including either strong leadership or access to resources, or both.<sup>1</sup> The SEA was proactive in ensuring that its 10 area education agencies were supporting school leaders. In Delaware, a university played a key leadership role, providing legitimacy and nonpartisan leadership on school improvement initiatives. The Delaware SEA was active in creating data systems for leaders, developing school improvement processes, and linking Wallace-funded leadership reforms with other state leadership initiatives, such as Vision 2015.<sup>2</sup> In both Delaware and Iowa, legislatures played key roles by putting in place requirements and provisions (and often state funding) for mentoring, evaluation, and induction of new administrators.

Iowa designed and worked at scale, focusing attention on policies and practices that would influence all districts. The state resolved that university-based leader preparation programs needed to be redesigned to place more emphasis on instructional leadership and the new Iowa Standards for School Leaders. As described above, the CSSO decided to sunset these programs, requiring them to reapply for approval. The state also required the area education agencies to provide evidence of support to leadership development.

Delaware identified two "breakthrough ideas"—succession planning and distributed leadership—and created a competitive mini-grants program to seed district programs to address them. Appoquinimink, Christina, and Indian River used this seed

---

<sup>1</sup> As a point of comparison, we found that interviewees in the less-cohesive states were more likely to report housing their CLS efforts primarily in SEAs with what they described as low levels of resources, including insufficient personnel.

<sup>2</sup> Vision 2015 is a statewide education reform effort cosponsored by the Business Roundtable and the Delaware Department of Education. The Vision 2015 report challenged the education system to implement seven recommendations ranging from improving the curriculum to supporting school leaders and adopting a student-weighted funding formula for school finance. Vision 2015 worked with the Delaware Academy for School Leadership to launch a school network to implement the Vision 2015 recommendations in an ever-expanding group of schools and districts.

funding to develop and implement programs to identify and train promising aspiring leader candidates. A variety of statewide forums provided all 19 districts in the state with opportunities to learn about these promising practices and subsequent opportunities to apply for seed funding. Similarly, Delaware sought to promote distributed leadership by funding several districts to develop pilot initiatives. The districts were required to waive any school board, central office, or teachers' union policy barriers to creating a more distributed leadership system. The Delaware CLS tracked these waivers and used the CLS-initiated annual statewide policy and practice institute to share the pilot models across the state. In general, Delaware focused on a set of ready and willing districts, while simultaneously promoting innovative practices throughout the state.

Iowa and Delaware, like most other sites with state-led efforts, employed some mandates in an effort to influence district practice throughout the state. But the mandates varied in the extent to which district practices were specified. For example, Iowa and Delaware both enacted leader evaluation policies. Iowa mandated that all principals and superintendents be evaluated on the basis of state standards, with an emphasis on progress on meeting individualized growth plans. However, districts were permitted to develop their own assessment tools. In contrast, Delaware mandated the use of a particular assessment, DPAS II, which required that administrators set goals, gather and document evidence of progress toward goals through completion of specified forms and surveys, and participate in a number of required conferences with evaluators.

While Delaware and Iowa were notable in their state-led approach to promoting leadership improvement practices at the district level, other states also followed this approach, to varying degrees. District responses to state mandates depended on the nature of the efforts and whether they supplemented or supplanted district efforts. A Boston leader noted that the state's required mentoring or induction for new principals helped to legitimize and institutionalize these supports. In describing the state role, she noted:

Before, if you could do it [support new principals], you did. But if you couldn't, so what? . . . The attitude was "it's a great idea and if we can afford it we do it." But [when it was mandated], they [districts] don't have a choice.

### **States Promoting District Initiatives**

If a state can capitalize on and spread district innovation, districts can benefit from each other and reduce inefficiencies. However, the willingness and ability of states in our study to recognize and scale up successful district practices to make them more widely available varied.

In Kentucky, most of the state leadership initiatives originated in the work of JCPS. JCPS and four local principal preparation providers agreed on a framework for principal preparation based on a co-design/co-delivery model that would better meet

the district's needs. State officials saw this as an opportunity to radically change the way leadership preparation was being provided throughout the state. The state also worked collaboratively with JCPS to scale up the SAMs program and the Instructional Leadership Team network described above.

Other states reported capitalizing on district initiatives as well. Georgia considers APS its lead learner district and often looks to APS as an incubator of programs and ideas. State support for SAMs grew out of APS's experiments with the program. In Oregon, OLN has served as a vehicle for scale-up activities. In Illinois, Chicago and Springfield interviewees reported that the Illinois State Action for Education Leadership Project (IL-SAELP) leaders had learned from and capitalized on district programs, such as mentoring and other PD programs for early career principals, to improve school leadership.

## Conclusions

We found that both states and districts were capable of leading efforts to improve school leadership. The districts that were strong leaders tended to be large urban districts with the resources and personnel to assume the lead without support from the state. They also had direct funding and technical assistance from The Wallace Foundation. With that support, they were able to align their leadership improvement efforts around locally developed standards, create partnerships with local universities, and, in some cases, gain permission from their states to certify leaders through their own preparation programs.

We found few instances, however, of district initiatives spreading to other districts without state intervention. States were the most effective agents in ensuring that promising practices were spread to other districts. State actors were also able to influence widespread change by using their legislative powers, such as mandating the reform of all principal preparation programs. States were able to spur action in districts by providing incentives to take on leadership improvement efforts, as happened in Delaware, where districts were given incentives to introduce distributed leadership systems in their schools. States were also in a better position to establish systems of distributed leadership for the CLS work. In Delaware and Iowa, state leadership was highly distributed, with political actors (e.g., legislatures), professional actors (e.g., CSSOs and SEAs), and supporting actors (e.g., universities and professional associations) all playing key roles. This distribution across multiple capable actors probably helped the states gain wide buy-in for their work and allowed them to use multiple strategies to improve school leadership, such as mandating change, communicating the importance of change across multiple stakeholder groups, and providing symbolic legitimacy for leadership improvement initiatives.

We also found that the nature of the interaction between states and districts sometimes changed over time. The new state superintendent in Georgia, for example, recognized the achievements in Atlanta and, at the time of our study, viewed it as a lead learner district. Georgia will likely begin to disseminate Atlanta's best practices across the state, thereby making it a site with both state- and district-led efforts. In Kentucky, the state and a district had also become equal co-leads in leadership improvement efforts.



## Building Cohesion Across Policies and Initiatives

---

We have defined CLSs as a comprehensive set of leadership policies and actions aligned within and across systems, developed through a coordinated process that engages diverse stakeholders who reached agreement on a set of actions to address school leadership. In this chapter, we analyze the extent to which selected sites have developed such systems. We focus on six of the sites the Foundation identified as having made the most progress toward developing a CLS: Delaware, Georgia, Illinois, Iowa, Kentucky, and Massachusetts. We also draw contrasts with non-CLS sites: Fort Wayne Community Schools, Indiana, Missouri (including St. Louis Public Schools), Oregon (including Eugene and Portland Public Schools), Providence Public Schools, and Rhode Island.

The purpose of this part of the analysis is to provide a better understanding of the work that goes into building these systems. We distinguish the most-advanced sites from less-advanced sites to identify the strategies and contextual factors associated with the fullest achievement of CLSs. These comparative assessments are snapshots in time, coinciding with our site visits (March to November 2008), and not evaluations of the potential for progress in each site. The states and districts we studied were at different points in their leadership development work, and there was evidence to suggest that the sites identified as less advanced at the time of the site visits were on their way to developing stronger CLSs.

We begin with a review of the literature that helped us develop a framework for understanding the dimensions of CLSs. We then compare the sites along five dimensions of a CLS based on our analyses of interviews with stakeholders and documents collected from interviewees and the Foundation.

### Dimensions of Cohesion

For several decades, the problem of policy and programmatic coherence has been a central focus in discussions of systemic school reform. Programs at the federal, state, and local levels often send contradictory messages, and few opportunities exist for local policymakers to work together (Fuhrman, 1993). Responding to pressure for improved student performance, states, districts, and schools have taken on a multitude of

improvement initiatives that have strained the capacity of local educators to coordinate and implement programs (Bryk et al., 1998; Hatch, 2002). Incoherence is linked to a number of inefficiencies and/or negative outcomes. For example, elementary schools pursue multiple initiatives as a way to garner important organizational resources, but lack of coordination and coherence limits their potential for positive results and fragments educator attention (Newmann et al., 2001). The Wallace Foundation has argued that lack of cohesion in leadership policies and practices—both within and between the different levels of public education—undermines school leaders' abilities to achieve learning improvements (The Wallace Foundation, 2006).

Building coherence suggests a systemic approach to educational improvement in which stakeholders and governing authorities work “in harmony and synergistically” to address the collective challenges faced by states, districts, and schools (Unger et al., 2008). Coherence traditionally implies alignment of policies and practices, or at least the absence of obvious policy conflict. Coherent education policies should send the same messages, avoid contradictions, and “build on one another in some way to form a larger whole” (Fuhrman, 1993). When states and districts launch systemic efforts to improve school leadership, the degree of coherence among policies and initiatives is likely to influence the attainment of such goals.

In contrast to the structural perspective on coherence, which emphasizes alignment, there is also a process approach to achieving coherence. Honig and Hatch (2004) argue that policy coherence, in the sense of alignment, is not an inherently positive (or negative) condition. They reframe the idea of coherence as a dynamic process by which organizations strategically use external demands to strengthen their performance, arguing that schools and school districts should work in partnership to negotiate the fit between external demands and organizational goals. In this view, coherence is a social construction produced through continual interactions among a range of stakeholders in education, and incoherent policy messages may provide an opportunity for educational organizations to craft a response that fits their local needs.

The process perspective emphasizes that engagement of stakeholders provides opportunities for the negotiation of meaning and supports policy implementation in a way that gives participants a deeper understanding of the nature of the change required by a new policy or practice (Spillane, 2000). With respect to leadership development, Young, Petersen, and Short (2002) call for the creation of an alliance of practitioners, professional associations, educational leadership faculty, university leaders, authorizing agencies, and others to engage in the preparation of educational leaders.

Attempting to change standard practices or policies invariably creates conflict among competing interest groups. Bolman and Deal (2003, p. 378) note that “successful change requires an ability to frame issues, build coalitions, and establish arenas in which disagreements can be forged into workable pacts.” Conflict is managed through bargaining and negotiation where agreements can be crafted. Public arenas then become generative in the change process as they provide forums within which

agreement can be reached. Agreement is an indicator of the extent to which productive negotiation regarding goals and strategies has occurred (Madda, Halverson, and Gomez, 2007).

Successful cross-stakeholder initiatives require work to coordinate individual and group efforts with systemwide goals. By *coordination*, we mean active work to integrate diverse elements into a harmonious operation. The importance of coordination is noted in the research on public administration, particularly social service delivery and policy implementation requiring interorganizational networks (see, for example, Provan and Milward, 1995). Coordination, through the actions of a leader or convener, is an important component of successful collaborative work (Legler and Reischl, 2003).

Drawing on this literature, we conclude that cohesive leadership systems are characterized by the following dimensions:

#### **Structural**

- *Comprehensiveness* of policies and initiatives, addressing the types of policies and initiatives described in Chapter Three (standards, pre-service and recruitment, licensure, evaluation, in-service, and improving conditions)
- *Alignment* of policies and practices within and between levels of the system (state and district)

#### **Process**

- *Engagement* of relevant stakeholders in the development and implementation of policies and initiatives
- *Agreement* among stakeholders regarding the salience of school leadership and how to improve it
- *Coordination* that promotes alignment, engagement, and agreement around leadership development initiatives.

The remainder of this chapter presents our findings, organized by the five dimensions of cohesion. We highlight the status of the six CLS sites on each dimension, and when possible, we compare their status to that of non-CLS sites.

### **Variation in Implementing Cohesive Leadership Systems**

The cohesiveness of leadership systems in the six CLS sites varied at the time of our study. We found the most variation on the structural dimensions of cohesion and relatively little variation on the process dimensions.

### **Comprehensive Leadership Policies and Initiatives**

We include comprehensiveness as a component of a cohesive leadership system to underscore the argument that cohesion in and of itself may not be fruitful. We expect that a site building a system to improve school leadership will have implemented a set of comprehensive policies to address the continuum of a leader's career (from standards and pre-service programming to evaluation, in-service, and conditions). Although we cannot conclude that these policies are the "right" ones, we still credit the sites that are attempting to improve school leadership through multiple levers. Overall, our analysis suggests that Delaware, Iowa, and Kentucky had the most comprehensive systems of leadership development policies and practices. These three states had attended to standards, licensure, pre-service, in-service, evaluation, and conditions. The remaining three CLS states had addressed fewer components of the system and/or had addressed a particular component with less ambitious policies or initiatives.

The policies and practices enacted by the Iowa CLS project exemplify a comprehensive system of leadership development. Recently elaborated leader standards specified desired leader behaviors. Aspiring leaders participated in redesigned preparation programs that included coursework and clinical experiences tailored to the realities of leading schools. A two-tiered licensure system required that novice administrators be monitored and assessed on the basis of the leader standards and that novices receive support from mentors and induction programs at the district level. An extensive set of PD offerings coordinated through the Iowa Leadership Academy targeted leaders at different career stages. Iowa CLS grantees were instrumental in the adoption of a policy requiring that all principals and superintendents be evaluated using the leadership standards, with emphasis on progress toward goals established in individualized growth plans. And a coalition of state agencies sought to influence the conditions that shape leader effectiveness, with attention to redefining leader roles, responsibilities, and authority. Iowa's Urban Education Network supported the work of eight large districts in redesigning their central offices to better support principal leadership. Iowa was also experimenting with the use of SAMs who assume school management duties to free principals' time to support instructional improvement and teacher development.

Throughout the Wallace grant period, the Delaware CLS grantees also made significant strides in creating a comprehensive leadership development system. By the end of the first phase of the SAELP program (in 2004), Delaware had revised its licensure and certification system for educators, adopted the ISLLC standards, funded a leader mentoring program and diagnostic assessment center, established an annual statewide forum for addressing leader policy and practice, created "skills and knowledge clusters" or PD modules that provide leaders with salary increases to incentivize participation, redesigned its three leader preparation programs through a critical friends review process, and revised the leader evaluation system (implemented statewide in 2008–2009). Following these achievements, the second phase of work focused on two "breakthrough ideas," succession planning and distributed leadership. The succession planning work

was piloted in a group of districts developing a pool of aspiring school leaders who had the skills, knowledge, and disposition to take on leadership roles as positions become available. The distributed leadership initiative, aimed primarily at middle and high schools, sought to provide teachers with opportunities and training to assume leadership roles in those schools. When we studied Delaware, the CLS leaders were aiming to increase the number of districts participating in the two breakthrough strategies, while deepening opportunities for training and development.

Like Iowa and Delaware, Kentucky had a system in place that included a broad set of policies and initiatives. The Kentucky CLS coalition represented a collaborative effort between JCPS and the Kentucky Department of Education. Jefferson County took the early lead in developing a number of policies and practices, including the creation of a “continuum” that specified standards for principal practice across stages of development (novice to professional), formed partnerships with local universities to redesign preparation programs, developed instructional leadership teams at the school level, and piloted a SAM position at some schools.

Kentucky had not yet addressed evaluation of acting principals beyond a state requirement that districts evaluate principals on the basis of the standards; however, principal candidates had to pass a standards-based assessment. Jefferson County evaluated principals through a portfolio-based process, and principals set growth targets based on district and school goals, gathered evidence of their progress toward those goals, and met with supervisors several times each year to revisit their professional growth plans.

While Delaware, Iowa, and Kentucky had the most-advanced CLSs at the time of our study, other CLS grantees had also taken significant steps. Massachusetts had invested significant resources in and attention to ongoing PD for acting leaders. Approximately 800 principals had participated in NISL training—a sustained and intensive learning opportunity. Other components of the Massachusetts CLS were under development, including revised standards and a new licensure system.

Illinois focused primarily on licensure, mentoring for new principals, and evaluation; more work was needed to support more-experienced leaders and to address pre-service preparation. Chicago and Springfield addressed these gaps locally by emphasizing in-service and partnering with local pre-service providers.

Georgia focused on early-career leaders by defining performance-based leader standards and by beginning to implement ambitious new requirements for preparation programs, including a supervised residency and co-design and implementation with districts. Both the Georgia Leadership Institute for School Improvement (GLISI) and the APS invested heavily in in-service programs. Overall, Georgia was in the process of addressing most system components, but a number of its initiatives, such as updating the licensure system and developing a leader evaluation tool, were in the development stage.

### **Alignment of Policies and Practices Within and Across Levels**

Delaware, Iowa, and Kentucky carefully designed and implemented their CLSs to ensure alignment within and across levels of the system. Interviewees in these states were able to articulate strong alignment among the various policies and initiatives promoted by the CLS. The three states also worked to ensure that leadership initiatives were aligned with broader educational reform aims. A state educational leader in Iowa explained:

Alignment is really important to us; we do want everything aligned. Even before the leadership initiative, our focus was to have everything aligned under school improvement to increase student achievement. That remains today, except that leadership is now an important piece.

In all three states, standards provided the anchor for alignment. A participant in the Delaware CLS work noted that the state standards guide leader support throughout the career continuum:

We adopted the ISLLC standards and not just that, but what made it cohesive is that, from start to finish, from pre-service to induction to career, the ISLLC are the focus of professional development and evaluation.

The Iowa Standards for School Leaders form the basis for accreditation of preparation programs, the content of mentoring and induction programs for novice leaders, and the evaluation of principals and superintendents. Kentucky adopted the national ISLLC standards but further elaborated the characteristics of effective principals through the creation of what they called the continuum, which guided preparation program redesign and, increasingly, PD offerings. In both Iowa and Kentucky, existing preparation programs were reformed, and redesigned programs were required to demonstrate alignment with standards.

Delaware exemplified alignment in a number of novel ways. Once CLS leaders identified distributed leadership as a “breakthrough idea,” the CLS group worked with higher education faculty to ensure that a distributed model of leadership was promoted in pre-service programs. They also aligned their approach to mentoring across initiatives. State leaders involved in the CLS grant developed a pool of mentors and coaches who were trained at the New York Leadership Academy and supported first-year principals and participants in the distributed leadership and Vision 2015 initiatives. Finally, teachers were introduced to the concept of distributed leadership through the teacher version of the state evaluation system, which required them to identify goals related to taking on leadership roles in their schools.

In some CLS sites, we rated alignment as less advanced, because components of the system were still under development. For example, Massachusetts had leadership

standards in place, but they were not yet used as the basis for leader evaluation or pre-service preparation programs.

Among CLS sites with less alignment, state mandates were to some extent a source of alignment conflict in districts that already had established practices. For example, although the Illinois legislation on evaluation and mentoring borrowed from Chicago and Springfield district practices, Springfield had to revise its evaluation and mentoring policies to abide by the new state law. District officials and principals reported that some changes were advantageous, while others were less so. Under the state legislation, a mentor had to have a minimum of three years' experience as a successful principal. Principals we interviewed in Springfield noted frustration with this requirement, because it limited the pool of potential mentors. Some mentors had ample experience and success as district administrators, but this experience was not relevant under the state legislation.

Some pre-service programs remained poorly aligned because of limited state and district influence. Four of the six CLS sites had taken steps to improve pre-service preparation, and districts were working directly with local preparation programs in the sites with little state-level action. Both Chicago and Springfield (IL) had strong linkages with local preparation programs (a combination of university-based and alternative programs) that predated state-level initiatives. However, considerable work remained to be done in most sites to link pre-service preparation to state standards and particularly to district needs. A respondent in Illinois said:

They [higher education] seem to be trying to keep this ivory tower mentality. We are trying to get them to recognize that the school district is [their] client. It is not the district providing you people to keep your program going. There is a disconnect between what districts need and what programs provide.

In the non-CLS sites, alignment among leadership improvement policies and initiatives varied. In most cases, there was evidence of only limited alignment (between a few leadership actions), and in some cases, there was little alignment at all. For example, there was little alignment among leadership improvement actions in Rhode Island, because the state had employed a strategy of funding a range of programs within districts that operated as demonstration sites. We are not certain why other states made less progress in aligning their actions across the state and with partner districts. Interviewees in these states reported either that their SEA was focused on rural districts, making it difficult to align initiatives with urban districts; that their state had a history of a culture of independence that worked against alignment; or that their governor did not support the efforts to improve school leadership, which stymied progress. These barriers are explored more fully in Chapter Six.

### Engagement of Stakeholders

Most CLS sites achieved broad stakeholder engagement in the development and implementation of their CLSs. Delaware, Georgia, Illinois, Iowa, and Kentucky assembled broad-reaching coalitions to engage state- and local-level leaders, to raise the salience of school leadership on the education reform agenda, and, at times, to actively contribute to the design and implementation of specific policies and initiatives. Respondents in these states were less apt to report that critical stakeholders had not been involved in the leadership improvement work.

Most CLS sites assembled a consortium of stakeholders to address requirements in their Wallace grant. Kentucky's Education Leadership Development Consortium met monthly with representatives from higher education institutions, state agencies, professional associations, and other groups, with a mission to "advance student learning through a collaborative focus on leadership development." Iowa formed the Leadership Partnership, which met quarterly to provide input and guidance on the feasibility of proposed policies and initiatives to support school leaders.

Delaware formed a consortium during the early SAELP work and also hosted an annual forum for engaging a very broad group of stakeholders in leadership development work, the Delaware Policy and Practice Institute. At this annual conference, the Institute highlighted promising practices in pilot districts (e.g., succession planning and distributed leadership) and engaged stakeholders in conversations to determine and prioritize the needs for future work.

Massachusetts also formed a broad coalition—the Education Leadership Alliance—that included professional organizations, service providers, and the Department of Education to design and deliver leadership services. The Alliance had partnerships with professional associations representing school committees (school boards), superintendents, and elementary and secondary principals' associations. However, engagement was rated lower in Massachusetts because several respondents noted that an important stakeholder—higher education—was generally not involved. Perhaps because the Alliance started with a focus on in-service for leaders, it had chosen not to involve higher education in the state's early leadership development work; however, when it expanded its focus to include standards development and possibly pre-service redesign, working with higher education became more important. The challenge was how to engage a community of such size and prestige with its 35 school leadership preparation programs. Although the higher education institutions had opportunities for input via focus groups and professional associations, the sheer number of programs made it difficult to get stakeholders at the same table for productive interaction. Other states, such as Kentucky, with 11 pre-service providers, or Delaware, with only three, did not face such challenges.

While most CLS sites had broad stakeholder engagement in their leadership development work, the extent to which stakeholders were involved varied. For example, governors (or their staffs) and state boards of education were often aware of the work

and perhaps attended a few meetings but, not surprisingly, were less often involved in sustained interaction around initiative design. Nonetheless, symbolic involvement of high-level political leaders was viewed by professional staff as instrumental in the success of initiatives. For example, a Kentucky coalition team member noted that the governor's office supported the state's leadership development work by welcoming participants at high-profile events and by lending support for the passage of key legislative actions.

### **Stakeholder Agreement**

To move a leadership agenda forward, stakeholder coalitions must achieve some level of agreement about strategy. Five states—Delaware, Georgia, Iowa, Kentucky, and Massachusetts—were particularly successful in meeting this goal. Reaching agreement on policies and initiatives that support leader development was an active process managed by project leaders. Faced with an initial lack of agreement from universities (particularly university leaders) regarding preparation program redesign, a cross-stakeholder group in Kentucky worked to overcome opposition. Now all 11 universities in the state have agreed to the key tenets of redesign work. While some elements, such as redesign to align with the state's leadership continuum, were supported by regulation, others required voluntary agreement. For example, all 11 universities have committed to using a common set of anchor assessments.

Illinois achieved agreement in some areas of leadership improvement, but not in others. It was reported to be difficult in Illinois to reach agreement between universities and the K–12 sector. One respondent said, “The higher education sector has to understand that their initiatives work together with what everyone else is trying to do.” However, CLS leaders in the state managed to gain widespread consensus on their core legislative package, and it was unanimously approved by the state legislature.

The non-CLS sites had mixed levels of agreement. A notable example is Oregon, where the SEA, CSSO, and district leaders in Eugene and Portland shared a strong vision of developing culturally competent school leaders. The focus on cultural competency was a central tenet of much of their leadership development work, and through OLN, these organizations worked with an increasing number of districts over the years. On the other hand, Rhode Island's General Assembly, Board of Regents, and Department of Education/CSSO were all influential in setting education policy, yet they lacked agreement regarding strategy and focus for education reform. In addition, the governor's education reform agenda differed significantly from that of the SEA.

### **Coordination**

All CLS sites had structures in place to coordinate their work, and this was one of the factors that distinguished CLS sites from non-CLS sites. By *coordination*, we mean the presence of an individual or agency taking a lead role in fostering stakeholder engagement, agreement, and an aligned system of leadership policies and initiatives. In sites

with strong coordination, the agency receiving the Wallace grant played a coordinating role. In Delaware, there was broad engagement, but a small group at the Delaware Academy for School Leadership provided the coordination and strategic planning, with help from an external consultant. In Massachusetts, a few individuals within the Department of Education coordinated the work. In Kentucky, state and JCPS district leaders jointly did most of the coordinating.

In many cases, respondents identified the SAELP or CLS project director as a critical coordinator. In Delaware, Illinois, Iowa, and Kentucky, numerous respondents reported the image of the SAELP/CLS director delivering all the relevant stakeholders “to the same table.” A state leader in Kentucky described a state coordinator of the Kentucky coalition as follows:

She is key in all of this: her leadership and her ability to bring people together, bring them to the table, is amazing. She has been able to, which just floors me, . . . get university people to the table and sit down together and talk about their programs with the standards board, with KDE [Kentucky Department of Education] people, so I think it’s been huge. It’s one of those situations where you had the right person, at the right time, in the right place. So she’s been working at combining her work with the Kentucky Leadership Academy, with the standards board, with the universities; it’s this octopus but it is all so interrelated and interconnected with every other agency. So that to me is the way it needs to happen.

Similarly, the CLS leader in Iowa was described as “great at clarifying what we wanted to create and keeping our preferred future in front of us.” And Delaware’s CLS director was described as a “wonderful leader,” “one of those truly gifted people,” and someone with “extraordinary vision,” who is both a “big-picture person” and also the “nuts-and-bolts person.”

Coordination was somewhat more complex in Georgia, where two groups coordinated the leadership work. GLISI had been an important player in driving the leadership agenda. The governor proposed the formation of GLISI, which includes the Board of Regents, the business community, and other key education stakeholders. Funding for GLISI’s work is supported by local foundations, the state, and the Board of Regents. GLISI is not a traditional coordinating agency. One interviewee described it as “less like an institution and more like a movement.” As such, some respondents viewed GLISI as “boutique,” because it focused on a small number of partner districts. Leaders in GLISI felt they did not have a choice; without any structural authority to intervene, GLISI must “work with willing leaders.” As such, the coordination that GLISI provided differed considerably from that provided in Iowa, where the highest levels of state political leadership played a strong coordinating role.

Another potential coordinating group in Georgia, the Alliance of Education Agency Heads, was led by the CSSO and included the heads of key state agencies and institutions, including the university system, the professional standards commission,

the state office of school achievement, and local school districts. However, this alliance's ability to coordinate leadership development work was reportedly limited, in part by its large size and the lack of involvement of district superintendents.

In the non-CLS sites, there was less coordination between the state and districts. In one non-CLS site, the state and one district had achieved some coordination on a single initiative—a series of statewide cultural competency conferences—but coordination for leadership development work outside of this one activity was limited, and virtually nonexistent when the initiative ended. In several non-CLS sites, coordination between state action and the work of large districts was strained because of the perception among urban districts that the state did not understand their needs. There was also a history of discord between the state and a large urban district in one site, reports that the governor did not support the work in another site, and a culture of independence in two of the non-CLS sites that may have impeded the ability of any one group to assume a coordinating role.

## Conclusions

Overall, Delaware, Iowa, and Kentucky had the most-advanced CLSs (see Table 5.1). These three sites, which had comprehensive and aligned systems, were also more likely to have higher levels of engagement, agreement, and coordination than the other CLS sites, with the exception of Georgia. The fact that Georgia ranked high on the three process dimensions may suggest that it was poised to enact a comprehensive and aligned system. The other two CLS sites, Illinois and Massachusetts, were relatively weaker on one of the process dimensions of cohesion. The Massachusetts CLS team needed to find ways to engage the higher education community in order to continue to advance its leadership agenda. And CLS efforts in Illinois would likely have benefited from continuing to address stakeholder agreement to support pre-service program reform.

**Table 5.1**  
Site Variation in CLS Development and Implementation

State	Structural Dimensions of Cohesion		Process Dimensions of Cohesion		
	Comprehensiveness	Alignment	Engagement	Agreement	Coordination
Delaware	More	More	More	More	More
Georgia	Less	Less	More	More	More
Illinois	Less	Less	More	Less	More
Iowa	More	More	More	More	More
Kentucky	More	More	More	More	More
Massachusetts	Less	Less	Less	More	More

Although we have discussed each dimension of cohesion separately, it is important to note that they are mutually reinforcing and in many ways more related than separate. One participant in Illinois offered an example of interrelated engagement and alignment:

The Illinois State Board of Education [ISBE] and the Illinois Board of Higher Education [IBHE] impact [leader] preparation in different ways; the state board oversees the certification, but the IBHE oversees programs and how they approve these programs. . . . Now both state agencies are in meetings together. That is something they didn't do before. In fact, the ISBE and IBHE jointly created the school leadership task force.

While the work of these two agencies is interdependent, there was little interaction before the CLS work began. This example illustrates the way Illinois engaged key stakeholders and also provided an opportunity for aligning the work of agencies responsible for different aspects of leader preparation.

We identified tension in some dimensions of cohesion. Our analysis suggests that it can be difficult to promote broad stakeholder engagement and at the same time achieve agreement among diverse participants. The case of Indiana is illustrative. Indiana achieved high levels of stakeholder engagement in the early years of its Wallace grant by assembling the Indiana Promise Consortium. The Promise Consortium included the CSSO, the governor, representatives from the General Assembly, a member of the Indiana Board of Education, state education associations, higher education institutions, PD agencies, the business community, school leaders, and Indiana Department of Education staff members. In addition, throughout Indiana's leadership development work on licensure reform, pre-service redesign, and PD, lead agencies assembled cross-role working groups and provided opportunities to vet proposed practices with a wider audience. For example, members of the Office of Educator Licensure and Development's School Leaders Committee held meetings in four regions of the state to get feedback on the proposed (now adopted) two-tiered licensure system.

However, Indiana's experience also displays how broad stakeholder engagement may be a threat to cohesion in that the broader the group, the more difficult it is to achieve and maintain agreement on policies and initiatives. When reflecting on the Promise Consortium's work, one member said, "There were a lot of reasons why a lot of work was not as productive as it could have been, because of our great attempt at inclusion." Participants in the broad agenda of the Promise Consortium noted that stakeholders with strong interests made it difficult to agree on concrete actions. Smaller stakeholder groups that formed around specific issues, such as licensure reform and pre-service program redesign, were more easily able to reach agreement and enact specific policies.

Even when CLS sites achieved broad engagement and relatively high levels of agreement, tension was present. A stakeholder in Iowa commented, "The Leadership

Partnership group is so huge, a good group to bring in for information and brainstorming, but where is the table for making decisions?” This comment suggests that CLSs might benefit from a combination of forums promoting broad stakeholder engagement and settings where decisions and agreement can be hashed out in smaller groups, as exemplified by Illinois and Delaware.

We found that states are better positioned than districts to foster broad stakeholder engagement and agreement among stakeholders, coordinate initiatives, and ensure alignment among resulting policies throughout the state. State agencies are also more aware of other education reforms and how to integrate leadership improvements into the broader agenda.

Although states played the key role in achieving CLSs, some districts in the less-advanced CLS sites accomplished significant leadership improvement at the district level, as described in Chapter Four. Some districts developed systems that addressed a broad and aligned set of leadership improvement policies and initiatives supported by a coordinated effort to engage and reach agreement among stakeholders. There was strong evidence of district-level progress in Atlanta and Springfield (IL). This was even the case within the non-CLS group. For example, Fort Wayne Community Schools implemented its own leadership development system. It is important, however, to distinguish districtwide achievements from the CLS hypothesis, in which states and districts are expected to work together to develop aligned policies and initiatives.

In the next chapter, we take a close look at the strategies used to build CLSs, focusing particularly on Delaware, Iowa, and Kentucky.



## Effective Strategies for System-Building

---

This chapter highlights the strategies used by sites to build support for policies and initiatives to improve school leadership and create greater cohesion among state and district efforts. We focus primarily on states, which we found to be the key agents in this work, but we reference district work as well. We were particularly interested in learning how three of the sites achieved relatively advanced systems.

We begin with a brief discussion of the growing role of the state in education policy and school reform, to place our finding that states tended to take the lead in building CLSs in context. Then we describe the strategies most commonly used by all the sites in developing a systematic approach to improving school leadership policy and practice, distinctive features in the approach of the three most advanced sites, and local contexts that appeared to support or inhibit such work.

### Growing Importance of the State

State organizations are in the best position to build statewide cohesion around education policies. State agencies can foster cohesion, for example, by sending clear, consistent, and coherent messages to all districts (Lane and Gracia, 2004). In recent years, most of these messages have focused on uniform standards and performance targets. State policymakers have access and reach that many local districts cannot ever hope to achieve, and states can therefore play a special role in facilitating networks and engaging external partners (Lane and Gracia, 2004; Unger et al., 2008). For small to mid-size districts, states play a critical role in pooling resources to achieve economies of scale (Unger et al., 2008).

States' power in education matters has grown in the past 50 years. Before the 1950s, states tended to play a minimal role in education, preferring to leave most control to local districts. The state role started to increase after the landmark *Brown v. Board of Education* case (1954), when states were required to assume the responsibility of ensuring equity for students. The federal government's role in education also grew, and state education agencies had to keep up to manage federal programs and ensure that districts and schools were complying with the rules and regulations that accom-

panied federal aid (Lane and Gracia, 2004; Fuhrman, Goertz, and Weinbaum, 2007). The state role increased even further after the publication of *A Nation at Risk* in 1983 and the subsequent reform movements of the 1980s and 1990s. The state share of education funding increased to 50 percent, legislatures became more professionalized, governors developed their own policy shops, and the business community began to get involved in education (Fuhrman, Goertz, and Weinbaum, 2007).

The state role increased again with the passage of the landmark No Child Left Behind Act of 2001. Before NCLB, states were primarily responsible for monitoring district behavior and ensuring compliance with federal and state regulations, particularly those related to categorical programs and special funding streams. With the advent of standards-based accountability and NCLB, states had to shift their focus to supporting districts and providing resources for school improvement. This is a new role that is outside most states' core competencies. Moreover, many state agencies have limited capacity, a problem that has been exacerbated by recent budget crises. These conditions make it challenging for states to adapt to interacting with districts and schools in a new way. Indeed, many of the strategies adopted by sites to build CLSs focus on building better relationships between state agencies and districts, as well as on developing ways to incentivize districts to change while also providing them with technical assistance to support the change process.

## **Strategies Pursued to Develop Cohesive Leadership Systems**

We identified eight strategies commonly used to build CLSs. Most of them were adopted by states, with the exception of Kentucky, where the state and JCPS were equal partners in this work. Districts were, however, involved in implementing the strategies, mainly through their participation in state-created committees, consortia, and networks, or in joint PD experiences, such as the executive leadership programs with state leaders (at Harvard and the University of Virginia).

Many of these strategies overlapped and reinforced one another. For example, good communication sometimes fostered trust, and trust sometimes enhanced the strength of networks. Therefore, the strategies should not be considered distinct from one another.

### **Building Trust**

Several interviewees described their efforts to build trust between the state and associated districts. This endeavor was reportedly necessary because several districts and states had monitoring and compliance relationships and had not previously worked as partners.

One approach used to build trust was explicitly acknowledging that improving leadership (and education in general) is both a state and a district responsibility. As

an interviewee in Massachusetts stressed, “We are grappling with problems together . . . it’s a district problem and a state problem, and no one has the answer to these problems.”

Interviewees also described the importance of building trust by providing more support to districts, which in some cases meant deemphasizing states’ monitoring function. Interviewees in Massachusetts noted that as the state increasingly worked with districts in collaborative ways—including listening to and then validating and addressing their concerns—it built credibility for the SEA and encouraged districts to collaborate with it. According to one SEA staff member, “Our face has grown friendly.” An interviewee in Springfield (MA) concurred, stating, “It was like having inside help . . . the state was becoming a real partner in our work and not an adversary or just a compliance organization.” In Georgia, interviewees reported that the new CSSO had enabled relationship-building between APS and the state and had contributed to better cooperation. An interviewee in Portland commented on this as well, stating, “I don’t feel the ‘gotcha’ energy coming from [the SEA] anymore.”

For some of the sites, trust-building was facilitated by attending executive leadership development programs, often with support from The Wallace Foundation. A team of Kentucky Department of Education representatives and leaders from four districts participated in Harvard’s ExEL program, for example. The participating members from the Department of Education have continued to meet periodically to collaborate on instructional improvement. Interviewees who worked in the Department of Education noted that participation in ExEL encouraged collaboration among departments that had traditionally been quite isolated from one another. Similarly, Massachusetts interviewees noted that participation in the same ExEL program served as a venue in which the Massachusetts Department of Education and four district leaders coalesced as a professional learning community. Through this trust-building initiative, the state and the districts have improved their understanding of each other’s positions and of how the state can better support the districts.

### **Creating Formal and Informal Networks**

The majority of the sites created formal and informal networks as mechanisms for engaging stakeholders, building agreement among them, and developing policies and initiatives to improve school leadership. Networks also served as vehicles for dispersing information throughout the state as members communicated with others in their own local communities.

The most common approach to building formal networks across the sites was creating interagency coalitions, task forces, and committees with state and district representatives. In several sites, this approach was required by the Wallace Foundation grant. In response to Wallace requirements, the Iowa state association overseeing the work convened a broad stakeholder group, the Leadership Partnership, which met

quarterly to develop cohesive policies and initiatives to support school leaders. Some states, including Kentucky, cemented such coalitions in legislation.

Coalitions brought together organizational representatives who did not routinely communicate. For example, in Kentucky, the Superintendents' CEO Network was established to advise the commissioner of education and provide PD for superintendents in the state. Members were selected from among superintendents of high-performing districts. Interviewees noted that the Superintendents' CEO Network was "a wonderful effort to try to build a professional community among superintendents and also to encourage superintendents to create professional communities of principals in their districts."

Indeed, interviewees reported that recruiting members for coalitions can be a strategic exercise. Some in Delaware emphasized the importance of including coalition members who have the power to create policies and influence change, along with others who will implement the changes. Delaware interviewees also stressed the importance of attracting "nay-sayers" to coalitions. Some sites, such as Kentucky, benefited from inviting external organizations to serve on coalitions as "critical friends." In Illinois, the involvement of teachers' unions helped ensure legislative support for the coalition's work. In Oregon, the SEA invited representatives of universities, professional associations, and district central offices to join OLN in an effort to gain broad-based buy-in for building much of the leadership improvement work around cultural competency. Members of Delaware's coalition included legislators and school board associations. In Indiana, the coalition included practicing principals and classroom teachers.

Sites faced challenges in structuring and timing participation. According to several interviewees in Massachusetts, not all stakeholders needed to be involved simultaneously in their coalition's work. In one stakeholder's words, "There needs to be different people at the table at different times. There should be continuity to ensure information sharing, but at different points you need different people." In Illinois, involving different people at different points in time did not work well. The original coalition approach was to establish small groups and work with them independently on separate issues (e.g., one group would work on licensure, while another focused on mentoring). However, this method built antagonism across members of the groups. The leadership of the CLS work in Illinois decided to bring all groups together at the same time in one large coalition that met four to five times a year, with smaller working groups focusing on specific issues.

Indeed, in many sites, coalitions were formed that represented actors from across the state, then smaller task forces or working committees were formed. Wallace funding and technical assistance helped Delaware to accelerate and deepen its leadership initiatives through its CLS coalition and the use of multiple task forces to share ideas, engage stakeholders, set priorities, and design and implement initiatives. Partnerships were formed in some sites to address specific topics. In Georgia, the Professional Stan-

dards Commission, GLISI, and the university system worked closely with SREB in the redesign of the principal pre-service preparation programs.

Sites also fostered informal networks as a means of building cohesion. As described above, informal networks sometimes grew from the experiences of state and district officials in the executive leadership development programs they attended. Sites also created informal networks through brokering relationships. For example, the grantee of record in Missouri was building relationships among individuals and programs, as noted by people at both state and district levels, including the St. Louis local educational agency. In particular, the grantee of record had pushed the local regional professional development center (RPDC) to work with St. Louis to deliver PD programs, overcoming both a culture of passivity (“the RPDCs lay out the goodies, the district takes what it wants”) and a history of limited work with large urban districts.

### **Fostering Communications**

A third strategy used in the sites to build cohesion was to foster regular communications among individuals and groups through meetings, e-mail, phone calls, and other means. Creating formal and informal networks facilitated this strategy, as did trust-building. Fostering communications was widespread, and interviewees at most of the sites stressed its importance. Ongoing communications often produced a common language, which should be useful in reaching agreement on how to improve school leadership across multiple individuals and organizations.

The most common way of communicating reported by the sites was holding regular meetings. The director of the Massachusetts CLS team reported that if three months passed without a meeting, “things began to fall apart.” Meetings can be a vehicle for reiteration of vision. Such reiteration is important given that organizations have different agendas, and individuals have different perspectives. A Delaware interviewee stressed that “you have to continue to educate people about why this works and why it is important for the system to be collaborative.”

Meetings are also forums for communicating new policies and providing updates on progress. In Indiana, the School Leaders Committee holds meetings around the state to communicate licensure changes and new requirements for preparation programs. In Delaware, an interviewee observed,

[The CLS leader] will come to the state [board] at least two times a year. She’ll give an overview and say this is where we are [in the CLS]. And then I went to something else a week later, I saw the overview again, maybe a month later. I said, I’m ready to give my support! That’s where she does an excellent job [because] she makes sure everyone is kept informed, all of the stakeholders.

Interviewees reported that between meetings, leaders of these efforts dedicated time to calling and e-mailing others. The director of the Massachusetts CLS team reported that their work was enabled by team members talking and/or e-mailing

every day. Whenever something came up that the director of the CLS work in Illinois thought others should know, she immediately started “working the phones.” As one interviewee noted, “It takes many one-on-one conversations to move things.” A lot of the work in Illinois was also done with e-mail; consortium members even used e-mail to draft and edit legislation text. In Delaware, Illinois, Kentucky, and Rhode Island, websites were used to keep track of and publish progress.

Another way sites fostered communication was by holding conferences or summits. A “leading for change” conference brought together members of the Kentucky Commonwealth Collaborative of School Leadership Programs, including all the universities that have principal preparation programs. This conference was followed by eight regional town hall meetings and a final statewide meeting involving a panel of national experts sharing their views on linking leadership to learning.

Communication has also been facilitated through focus groups. In Massachusetts, the state contracted with the University of Massachusetts to hold a series of focus groups with various district- and state-level stakeholders to elicit feedback on the draft revised standards. This approach facilitated communicating messages beyond coalition members.

Perhaps the most powerful communications took place when most of the key actors in a site could get together “in the same room,” as our interviewees liked to say, to learn together and jointly decide on leadership improvements. Delaware was able to convene all its key actors fairly regularly by virtue of its small size. Iowa did so by its use of Wallace funds to subsidize travel costs to attend coordination and PD meetings. Kentucky got all its key stakeholders together sequentially through town hall meetings and monthly work group meetings.

### **Exerting Pressure and Influence**

All the sites recognized that successful pursuit of their goals required buy-in at both the state and district levels, from both policymakers and practitioners. In addition to drawing on the strategies described above, they exerted pressure and influence to bring multiple stakeholders on board.

One way of exerting influence was to provide incentives (both rewards and sanctions) to induce action. In Massachusetts, state funding was an incentive for districts to provide instructional leadership in-service training. In Illinois, the state provided funding for mentoring programs. Other states awarded competitive pilot grants to ready and willing districts. Districts reported appreciation for these allocations, noting that they could then spend their own money on other efforts.

States also exerted pressure in the sites. In Illinois, the governor’s office sent a letter to the Wallace-funded IL-SAELP consortium stipulating that it would support only recommendations for legislation that were made by a certain date. Kentucky pressured universities to reform their principal preparation programs. In Georgia and Iowa, all

pre-service programs were subject to sunset provisions until it could be demonstrated that they were aligned with leadership standards and district needs.

States also exerted pressure by passing legislation or state board rules and regulations. Updating state board of education rules and regulations was often the path of least resistance for getting policies in place, although legislation was needed to fund new programs. Both are powerful mechanisms for requiring that programs and procedures be cohesive across districts and the state. District officials reported an appreciation for legislation not simply because it meant new funding for programs, but because it gave district officials an additional “excuse” to improve school leadership. Officials promoting initiatives could point to the state requirements as evidence of their necessity, without having to spend time and resources persuading others of their importance. Although legislation and regulations were generally seen as a major coup, some interviewees questioned whether programs would be implemented in accordance with the regulatory or legislative intent.

### **Promoting Improved Quality of Leadership Policies and Initiatives**

The sites had a variety of mechanisms under way to improve the quality of leadership improvement initiatives and hold various organizations accountable for quality.

Several sites hired external experts as advisors when they were building their CLSs. Delaware’s work was guided by several national leadership experts. Early in their work, Illinois CLS leaders asked SREB to ascertain how Illinois compared with SREB’s member states in terms of progress on improving school leadership. Kentucky hired a nationally known expert on school leadership—and indeed, his presence at meetings incentivized participant attendance. Iowa offered additional training for mentors who wished to increase their skills beyond the one-day training provided to all mentors by contracting with the California-based New Teachers Center to provide their Coaching Leaders to Attain Student Success program. Delaware hired the New York Leadership Academy to train its coaches. Massachusetts convened a national expert panel prior to a Wallace convening to launch a conversation about the site’s work. Goals of the panel included getting a national perspective on translating new leadership standards into components of preparation programs and evaluations to change leaders’ practice; blocking out big pieces of the work (beginning with standards/licensure, evaluation, and program redesign); and determining the composition of an effective steering committee to champion and drive the CLS development process.

Another approach was to address district capacity constraints and provide resources, tools, and direct support to districts and schools. Iowa launched an initiative called Central Office Redesign, in which the CLS provided resources to the eight cities in the Urban Education Network to hire national coaches and redesign the roles of central office staff to better support principals as instructional leaders. Some states identified successful district practices and worked to bring them to scale, demonstrating an ability to identify and spread innovation. They accomplished this by securing

additional resources to expand programs, creating networks to share practices, and sharing best practices at statewide and national conferences.

A final approach to ensuring quality (and accountability) across the sites was to require periodic leader preparation program approval from national organizations, such as the National Council for the Accreditation of Teacher Education, the Educational Leadership Constituent Council, and the National Association of State Directors of Teacher Education, or state-designed approval processes, such as the one developed in Kentucky. In many sites, programs that did not meet standards could be discontinued.

### **Building Capacity for the Work**

Project leaders recognized early on that building a CLS would require a lot of effort and attention. While it might be argued that the SEA is the obvious organization to oversee leadership improvement efforts because of its mission and authority, some sites concluded that the SEA lacked the resources to carry out this work.

To assess internal capacity, some sites considered whether staff would be able to think and work outside the boundaries that are in place in many SEAs, which are typically organized around categorical federal programs (Wirt and Kirst, 1997; Unger et al., 2008). Some site actors also considered whether the SEA would be the most credible lead agency given the nature of the policies, initiatives, and changes under consideration. In some sites, the grantee of record was the SEA, but contracts were provided to professional associations and other organizations to carry out the work. This gave the leadership improvement initiatives the support of the state, along with the credibility of another organization to move the work forward.

### **Identifying Strong Individuals with Political and Social Capital to Lead the Work**

Some sites moved their leadership agenda forward by nominating a director with high social and political capital who could work from an organizational base of appropriate power to exert pressure and influence. Interviewees in a few sites questioned whether directors of the leadership improvement work had strong power bases. In other sites, strong project directors had the reputation of having been successful instructional leaders themselves and/or of having a deep understanding of the role of an instructional leader. Strong directors also had political savvy and were capable facilitators of system change.

### **Connecting with Other Reform Efforts**

Some sites were able to connect school leadership work with broader educational reform efforts in the state. Making such connections is a promising approach to supporting alignment and sustainability, but it requires a skilled and visionary coordinator or coordinating agencies that are sufficiently connected with other state leaders to ensure awareness of broader reform efforts. Connecting with other reforms can broaden the goal of cohesion from a focus only on leadership improvement policies and initia-

tives to building cohesion across multiple statewide education reform efforts. Building broad cohesion across a state may reduce the extent to which competing reform efforts threaten the viability of school leadership improvement work.

In Delaware, when a significant number of middle and high schools did not make adequate yearly progress (AYP) in 2004, leadership efforts were linked to an SEA agenda focused on improving achievement. The state targeted low-performing middle and high schools to participate in CLS initiatives.

In Kentucky, state leaders recognized that integrating leadership reform with other reform efforts could generate additional resources. They made the connection between their leadership work and existing initiatives to improve the quality of teachers and, by doing so, not only increased funding streams, but also sharpened the focus on the role of principals in supporting instructional improvement in their schools.

## Differences in Strategies Across Sites

A natural question flowing from this description of key strategies is whether Delaware, Iowa, and Kentucky drew on some of these strategies more than others or pursued different approaches to achieving their goals. This section describes the main differences in strategies between these three sites and the others in our study.

### Employing a Broad Range of Approaches with Wider Reach

Delaware, Iowa, and Kentucky pursued all eight strategies, while the other sites generally used fewer of them. In particular, these three sites were more likely to build capacity, identify strong individuals to lead the work, and connect the leadership work to other reform efforts than were the other sites.

Delaware, Iowa, and Kentucky all worked to build local capacity for leadership development and school improvement. Non-CLS sites—including Indiana, Missouri, Oregon, and Rhode Island—were less likely to build capacity by creating new state infrastructures. These sites, with the exception of Oregon, which did create a new structure, OLN, were more likely to support the leadership improvement agenda by housing their Wallace-funded projects within the SEA, staffed by existing personnel. They were less likely to create or enhance organizational capacity. Interviewees in these sites identified the limited capacity of the SEA as a barrier to the success of their leadership improvement agenda. In one site, leadership for the Wallace grant rotated among SEA staff, none of whom were allocated sufficient time for the work.

Respondents in Delaware, Iowa, and Kentucky were also more likely to have strong individuals with powerful social and political capital leading the work. Respondents in non-CLS sites were less likely to describe directors as having these characteristics. In one of the non-CLS sites, respondents described their leadership as “weak.”

Finally, Delaware, Iowa, and Kentucky were more likely to connect their leadership improvement work to other reform efforts in their respective states. We found little evidence of connecting leadership work to other reform efforts in the non-CLS sites. Part of the reason may be that SEAs in those states are highly departmentalized, operating in what respondents often called “silos.” Non-CLS site representatives also pointed to greater discord and mistrust between stakeholders and education agencies (and sometimes the governor), making it even more difficult to forge productive cross-agency and cross-department reform efforts. However, in general, these sites had few initiatives that were far enough along to connect to other reform efforts.

### **Strategic Communications**

Leaders of the Wallace-funded work in Delaware and Iowa routinely gathered key state and district leaders into the same room to both learn about leadership and develop policies and initiatives to improve it. Kentucky accomplished this same goal in a serial fashion by traveling throughout the state, holding town hall meetings. Interviewees in these sites credited key state actors with creating “learning systems for leadership” to get to “leadership for learning.” Routinely gathering key decisionmakers into one room enabled decisionmaking. Including those who would implement the decisions enabled buy-in.

### **Combining Pressure and Support**

Another approach that differentiated Delaware, Iowa, and Kentucky from other sites in our sample was the employment of two key strategies simultaneously: exerting pressure for change and providing support for the change.

Kentucky’s approach to redesigning its leader preparation programs is a prime example of the strength of this combination. The state agency governing educator preparation—the Education Professional Standards Board—publicly considered the possibility that it would change its regulations so that master’s degrees would no longer be a prerequisite for candidates seeking principal preparation. This created pressure because higher education institutions immediately recognized that such a change could result in a major loss of enrollment in professional master’s degree programs; thus they became motivated to get involved in the redesign efforts and have a say in the process.

But Kentucky did not rely on pressure alone; site leaders also offered support for the principal preparation program redesign process. The state and JCPS jointly hosted and organized a series of stakeholder forums, bringing in outside facilitators from highly regarded external organizations such as CCSSO, SREB, and the National Association of State Boards of Education. The CLS project provided funding for monthly two-day meetings of a working group that was composed primarily of representatives of higher education programs but also included representatives of key stakeholders such as the teachers’ union and the Department of Education, as well as a highly regarded outside

consultant. The state also launched a partnership with four universities to support the creation of a redesigned program, which provided an opportunity for evaluation and reflection on the elements of a high-quality program.

In non-CLS sites, pressure and support were less likely to be used together to drive a specific change agenda. One site changed its accreditation process for higher education programs by adopting more-rigorous program standards but did not provide support for attempts to redesign programs. Some stakeholders in the process were not optimistic that significant program change would occur. One participant speculated that programs would not invest the time to make meaningful change on their own, opting instead for superficial changes to meet the requirements.

These dual roles may be difficult to maintain. An interviewee in Iowa noted:

Long-term, the area education agencies are at risk because we are sending multiple messages to them. We say they are there for support, yet in another week we ask them to do an accreditation visit and say harsh things to those people you serve. I don't have an answer for that, but that relationship long-term could get very fragile.

And according to another interviewee:

Well it's hard. Because here we are the bad guys and here we are the good guys all rolled into one. And it's tough. . . . And that's been a little bit of a nut to crack; because how do we develop a philosophy that says, "We're going to monitor you, but we're also going to help you?"

### **Contextual Factors Enabling and Inhibiting Efforts to Build a CLS**

Across the sites, interviewees reported a range of factors that enabled or hindered efforts to execute their strategies for building a CLS, most of which were in place prior to receipt of the Wallace Foundation grant:

#### **Enabling factors**

- Common structures and policies
- A history of collaboration
- Strong preexisting social networks
- Participation of nontraditional actors
- Funding and technical assistance from The Wallace Foundation
- Political support
- Supportive, stable, and aligned superintendents and school boards

**Inhibiting factors**

- Limited resources
- Limited SEA capacity
- Turnover of key staff
- Too many organizations, too far apart
- A culture of independence
- Discord across organizations
- Reform overload.

**Enabling Factors**

**Common structures and policies.** Across the sites, common structures and policies formed a foundation for ensuring cohesion. In Iowa, the CSSO governs P–16 education, which permits her to align policies across the entire system. It allows her to address the principal preparation programs, whose reform is vitally important to the K–12 sector but is often resisted by universities, which are, in many states, governed under separate authority structures.

Even in sites where the P-16 system is not aligned under one governing body, interviewees reported that state policies affecting all districts facilitated cohesion. All of the states in our study have common academic standards and assessments for students. Many are moving toward common high school graduation requirements (and some are moving toward common exit exams). Such standard experiences for youth contribute to developing principal preparation programs that address all districts' needs. And developing statewide policies primes states and districts for working together on subsequent policy issues.

**A history of collaboration.** Similarly, a history of collaborative, collegial relationships across organizations facilitates cohesion. Oregon's progressive social policies resonated well with both Portland and Eugene, and we found very little contention between state policy and our study districts' goals and priorities. In Iowa, multiple interviewees noted that the legislature and the Iowa Department of Education had an excellent relationship. One state agency interviewee reported that his organization had such a good relationship with the legislature that "sometimes it's scary." Similarly, an interviewee in Delaware noted, "Delaware would have done some of this the 'SAELP way' [anyway] because Delaware is a collaborative state."

**Strong preexisting social networks.** Another facilitator of cohesion is strong social networks that result from the same people serving in different roles over time, as was reportedly common in Delaware. It was also common in Delaware for educators to serve simultaneously on multiple boards and commissions, helping to link the work of diverse initiatives. We noted overlapping participation on different boards in Kentucky as well. And in Illinois, a CLS staff member used to work at the Illinois State Board of Education and therefore brought the perspective of that agency to the CLS work.

Small states may have an advantage in building such social networks. As one interviewee put it, “I think that Delaware does a really good job because Delaware is so small, everybody knows everybody and that makes a big difference; culture is family-like.” A Rhode Island interviewee said that she “works directly with the Commissioner and Deputy Commissioner; it’s so small in this state that you work with people directly.” However, other interviewees in Rhode Island argued that although its small size has resulted in great familiarity among people and organizations, it has not facilitated collaboration among state government organizations.

**Participation of nontraditional actors.** Across the sites, several interviewees attributed progress in building cohesion to the involvement of actors other than SEAs. Interviewees credited professional associations, universities, state leadership academies, area education agencies, and “lead learner” districts with being as important as SEAs.

**The Wallace Foundation.** Not surprisingly, an important enabler for building cohesion in the sites was the funding, vision, and support of The Wallace Foundation. The Foundation has provided an unusual amount of nonmonetary support to grantees, such as opportunities to learn from each other through national interest groups, a website for grantees, occasional webinars, and regular grantee conferences.

Many interviewees noted that the grant brought disparate groups together. An interviewee in Massachusetts reported that Wallace

got us to stop thinking so silo-like and start thinking more globally. . . . to bring all the players to the table for a reason and then to see some results.

Kentucky interviewees reported that prior to the Wallace work, stakeholders worked in isolation with their own individual agendas. A state agency interviewee there credited the Wallace grant and the leadership of the grantees with bringing stakeholders together around a common vision. According to an interviewee in Boston, the district and the state were partners “on paper” prior to 2006, but in response to prompting by Wallace, they began a more earnest and meaningful collaboration. She reported that in responding to the Wallace call for proposals, the leads from the SEA, Boston, and Springfield put forth a genuine effort to work together. A Delaware interviewee noted that the Wallace grant and resulting consortium encouraged CLS leaders to include universities in their leader development work.

**Political support.** Respondents noted that they were not the only ones committed to improving student achievement by improving school leadership and building a cohesive statewide system to do so; powerful state actors and organizations shared that commitment. A state-level interviewee in Kentucky noted that school leadership was at the top of the secretary of education’s agenda.

**Supportive, stable, and aligned superintendents and school boards.** Interviewees reported both the stability and importance of supportive superintendents and board members in enabling districts to actively participate in building a CLS. Many

also noted that superintendents and board members needed to be aligned in their vision to improve school leadership.

### **Inhibiting Factors**

In addition to describing enablers, site representatives reported several challenges to building a CLS, some of which have existed for years. Others (such as turnover of key leaders) arose during efforts to build CLSs. Some of the barriers are nearly impossible to address, while others have been tackled in fairly creative ways. None of them were mentioned in all sites. One barrier may have prevented efforts from succeeding in one site, while other sites either did not face the same barrier or were able to overcome it.

**Limited resources.** Some interviewees reported that they lacked resources to build cohesive systems. Most interviewee complaints were about either a lack of time or a lack of staff. It is possible that we did not hear concerns about funding because these sites had all received Wallace grants. However, some of our study states were facing economic downturns and were experiencing education budget cuts, in some cases several percentage points a year, resulting in resource-strapped systems.

**Limited SEA capacity.** Some of the SEAs in our study also had limited capacity, both in numbers of staff and in staff with the knowledge and skills to lead the work. An interviewee in Providence noted that “RIDE [Rhode Island Department of Education] is extremely underresourced and lacking in capacity.” Some respondents attributed limited capacity to resource issues such as declining state education budgets. Respondents in other sites attributed downsizing to a political desire for a lean state agency. Some interviewees reported that their SEAs were focused on helping rural districts and did not understand the complexity of the issues facing large urban districts in the state. Even in some sites that were actively working to build a CLS, respondents noted that SEA staff were “overworked and underpaid,” resulting in limited capacity to support leadership development initiatives. Other interviewees, including some from Boston, however, reported that their SEAs did have the capacity to lead leadership improvement efforts.

**Turnover of key staff.** Several respondents noted that lack of continuity impeded creation of a CLS. Indiana was on its fourth SAELP leader since 2000, which may have contributed to limiting its accomplishments. Another non-CLS district had had four superintendents and five chief academic officers over the lifetime of the Wallace grant.

**Too many organizations, too far apart.** It may also be difficult to maintain cohesion when organizations are highly dispersed. Springfield (MA) is a two-hour drive from Boston, and the state SEA is located in Malden, which made it difficult to arrange in-person meetings between Boston, Springfield, and SEA representatives. The large number of higher education preparation programs in Massachusetts also hindered cohesion. Since there was no easy way to involve all 35 of the preparation providers in the working group that was creating the standards, none were directly involved in

decisionmaking<sup>1</sup> (except the University of Massachusetts–Amherst, which conducted some background work under a contract).

**Culture of independence.** In addition to geographic constraints, structures and cultures that promote independence can constrain cohesion (although they may have benefits as well). One non-CLS site’s interviewees noted the state’s history of local control and independence; another interviewee remarked that the state’s “mascot” was the “Independence Man,” a lone figure that stands on top of the state capitol building. Similarly, in Oregon, the political culture of education promotes and supports local control. Top-down state-level initiatives have generally not been enthusiastically embraced there.

**Discord among organizations.** In some sites, there is fragmentation among and between state organizations and districts. Numerous interviewees in one site noted that their state legislature is not a reliable partner in education improvement because it often “goes off on its own” and passes legislation that is “not helpful to anyone.” Interviewees in another site reported that the superintendent of schools had advised teachers not to take their students to the state capital for a traditional field trip, but to take them instead to a neighboring state, where “state government works.” In one non-CLS site, the state legislature cut funds to the SEA because of what it perceived to be the SEA’s poor handling of the deaccreditation of a large urban district.

Interviewees in Kentucky reported that the Wallace funding and technical assistance had been instrumental in overcoming discord between Jefferson County and the SEA and facilitating joint work. Requiring the district and the state to sit down together and negotiate the budget and other tasks in the grant resolved their differences and aligned their expectations of each other.

**Reform overload and other external threats.** Districts in particular complained that they were struggling to balance several externally imposed initiatives. Even those that were committed to improving school leadership were also implementing other programs to improve student achievement—for example, by focusing on English-language learners. Interviewees reported struggling to ensure that their reform efforts were aligned across many different areas as they attempted to mirror the cohesion around leadership improvement policies and initiatives that was building in their states.

## Contextual Differences Across Sites

Delaware and Iowa had a history of collaboration and strong social networks. They also, along with Kentucky, had a history of political support for school reform.

---

<sup>1</sup> During the vetting process, the standards were reviewed by an organization that represents three associations of higher education.

Delaware and Iowa have both had relatively positive relationships among deeply networked state-level stakeholders and a history of collaboration among them. We noted overlapping participation on different boards in Kentucky as well, but interviewees noted that this site did not have a history of positive, collaborative relationships between state and district actors. Only with the advent of the Wallace funding and support had leaders from the SEA and Jefferson County been able to mend fences and begin to work collaboratively.

Delaware, Iowa, and Kentucky also reported a consistently high level of political support stemming from a widely shared vision for reform among political leaders. All three sites had a history of state activism in education reform. The shared experiences set the groundwork for progress on leadership initiatives by facilitating discussions on how to address educational leadership issues.

Finally, we examined whether the more advanced sites faced fewer serious barriers to cohesion. We found that Delaware, Iowa, and Kentucky were less likely to have had turnover of key staff, a culture of independence, and discord across organizations. However, these sites did have to overcome limited resources and SEA capacity, dispersed organizations, and, in the case of Kentucky, a history of tension between the SEA and the Jefferson County school district.

## Conclusions

We conclude that state actors can be highly effective in developing cohesive leadership systems when they take deliberate action to build broad engagement and agreement across multiple, diverse stakeholders. Delaware, Iowa, and Kentucky achieved strong systems by implementing effective strategies. For example, these states created models of distributed leadership for the work, which included key roles for legislatures, CSSOs, SEAs, universities, professional associations, and key district leaders, as described in Chapter Four. They were also more likely than other states to

- Employ a broad range of other strategies, with a focus on identifying strong individuals to lead the work and connecting the leadership work to other reform efforts
- Prioritize strategic communications sessions in which multiple key stakeholders came together to develop leadership improvement policies and initiatives
- Use a combination of pressure and support to further their leadership agendas.

These three states also had a history of positive and collaborative relationships among stakeholders, political support, and a lower rate of staff turnover, factors that were not present in many of the other states.

In the sites with more-advanced CLSs, district respondents reported three types of benefits: more-sophisticated support, increased funding, and, in those states where specific improvement actions were mandated, an “excuse” to improve school leadership. Because the study districts reported benefits from state involvement, we suspect that smaller, less-resourced districts would also benefit from it.

Interviewees in sites with less-developed leadership systems reported very few examples of strategies that had failed. They attributed lack of progress to contextual barriers rather than strategic errors. The two most often cited contextual barriers were turnover of key staff and a culture of independence and local control over education policy.

In Chapter Nine, we will draw some practical lessons from our analysis for states that want to embark on creating CLSs.



## Prospects for Sustainability

---

Interviewees from all 10 sites in our study talked about continuing the work they had begun. Some sites were planning to spread leadership improvement beyond pilot districts; others had accomplished much in one specific area, such as standards for leaders, and hoped to expand the work to other aspects of leadership, such as principal preparation programs. But most of our interviewees recognized that scaling up would be challenging—as would sustaining the progress they had made—after Foundation funding ends in 2010. In this chapter, we present lessons learned on ways to continue the work and address future funding challenges.

### Challenges to Sustainment and Expansion

Most of our interviewees were hoping to sustain their work but were uncertain about whether they would be able to do so. Their main concerns were about resource constraints, staff turnover, ongoing organizational commitment, and loss of fidelity in implementation as new districts and schools came on board.

Interviewees were concerned about insufficient time or staff, as well as future funding. An interviewee in Massachusetts noted:

In these early stages of laying the groundwork [for collaborating on the standards], it's been all about time. Because the more time we spend together, the better the work gets . . . but everyone is so busy.

Interviewees in Kentucky stated that they would like to oversee PD by ensuring that approved providers will focus on leadership practices to improve student achievement in their offerings to principals, but they lacked the staff to review all of the offerings. Others expressed concern about funding and suggested strategies to garner additional funds, described below.

Interviewees in Iowa were most worried about staff turnover. According to one respondent:

The difficult part when you try to project political will is that it's volatile, so changing. I anticipate we'll get a new director of DOE [the Iowa Department of Education] in the next few years, and the Executive Director of SAI [School Administrators of Iowa]—key leadership positions. There will be changing of the superintendencies in the UEN [Urban Education Network, which consists of eight large districts in Iowa]. There is a trend to bring in new people from out of state, people who don't have a deep understanding of the work. Will things remain a focus once these key leaders retire and move on? That will be the mark of whether or not it really truly took hold, if we built capacity. We have good leaders in Iowa and people who are committed to the work that is outlined in the Wallace work. It's a matter of what's next. It's hard to predict, hard to know what the system will become.

Another Iowa interviewee described the director of the current CLS program as “incredible” and worried about the fate of the initiative once she steps down:

Is this a sustainable future, or is it because this one person worked tirelessly and we had the wonderful funding from Wallace? It's worrisome to think when the critical pivot person is gone, then what?

A few interviewees expressed concern that some organizations had become involved because they needed funding for their own programs, not because they were committed to the larger goal of improving instructional leadership. In one case, respondents said that organizations that were offering training for mentors had lobbied hard to receive state funding but had not embraced the mentoring model many CLS participants had spent months honing. As the literature indicates and our research confirms, tension can exist between each partner's own distinct identity and the collective identity, between self-interest and the collective interest; the partners need to have “mutually beneficial interdependencies” to sustain the collaboration.

A related concern was that it would be difficult to stay faithful to the full intent of the initiative as new organizations came on board. In several states, scale-up hinges on further implementation of the work in local districts and schools. There is tension between building cohesion across state and district agencies and respecting local contexts in implementing CLSs. For example, Iowa now requires evaluations based on the state leadership standards. Principals are evaluated by superintendents, and their PD is based on the evaluation results. But it remains to be seen whether these evaluations will be taken seriously and conducted with fidelity to their intent. Many district interviewees argued that their district was different from others in their state (larger or smaller, more urban or more rural), so that future efforts would need to be further tailored. Districts may also differ by region. Respondents in Kentucky noted that “state culture varies a lot by region (e.g., eastern versus western Kentucky), so it can be difficult to agree on a common vision.” Similarly, leadership efforts in Oregon have focused primarily on the more progressive and urban western part of the state. Tension between

broad reforms and local implementation is certainly not unique to building a CLS, but it is worth considering in this context.

## Strategies for Sustainment and Growth

We asked our interviewees how the sites were planning to address the challenges to sustaining and expanding their systems. Many were convinced that the most effective strategy was to legislate and regulate initiatives. In several states, including Delaware, Illinois, Iowa, Kentucky, and Massachusetts, interviewees prided themselves on passing legislation and promulgating regulations supporting the CLS work.

Existing legislation has provided stable funding for some initiatives. An interviewee in Massachusetts noted, “I’m getting lots of other funding from the legislature itself, which says, ‘Gosh, this is great. This Wallace Foundation has funded it, but we’ve got to be able to support it too.’” In Iowa, a legislator recommended collecting data to demonstrate that leadership is making a difference in student achievement as a strategy to continue to engage legislative bodies.

To shield efforts against turnover and transitions, sites were documenting their work, doing succession planning, establishing distributed leadership systems, and vesting leadership of efforts in apolitical organizations, such as universities, to enable programs to outlast political changes in departments of education. In Kentucky, the CLS project leader partnered with the Kentucky Leadership Academy as part of an explicit strategy to build sustainability. In Massachusetts, state actors have worked to establish distributed leadership and a collaboration in which multiple individuals from different organizations feel ownership and responsibility for the work.

Individual organizational interests have been balanced with the interests of improving school leadership across a state by creating incentives for ongoing participation in CLS efforts; demonstrating the importance of this work through research and early successes; and developing and maintaining common understandings, shared goals, and joint ownership. Achieving “early wins” has helped individual organizations recognize benefits from engaging in CLS work. Delaware used mini-grants to seed practices (e.g., succession planning, distributed leadership) in high-functioning pilot districts and then publicized their work, hoping that the pilots would serve as models. As a Delaware interviewee noted:

We got a lot of things to happen right up front so skeptics were able to see tangible change quickly, so some skeptics bought into the system, they saw results. And they [results] have continued to happen.

To maintain fidelity as new organizations, particularly new districts and schools, take on the CLS work, states have provided PD and technical assistance. Some sites developed products and technologies that would outlast the initiators of the work.

Finally, as described above, state actors have aligned their work with leadership standards in the hope that new organizations will understand that referent point and, even if they adjust programs and procedures to meet local needs, will maintain the alignment.

Many respondents expressed the belief that achieving a certain level of cohesion through the concerted efforts of state and district leaders was in itself a hedge against dissolution in the future. Several commented that there was no turning back: Bonds had been formed, a common language and vision had been embraced, and widespread commitment to mutual goals had developed. In other words, the groundwork had been laid, and momentum had been gained. State officials in several sites noted that they had established collaborative norms and routines. A Portland interviewee said, “It is not going to go away. We don’t want this to die.” A member of the Oregon Professors of Educational Administration argued that this organization “will remain because we have now recognized through our cooperation that we are stronger together.” In Kentucky, a state leader stressed that he is committed to “staying around to see the redesign work through.” In the words of one Massachusetts interviewee:

I think the collaboration is not an option anymore. . . . I think that the leadership alliance [collaboration of professional associations, service providers, and the SEA] is institutionalized. . . . we came together because of a grant, but now, we’re there because of the concept and the ideas and the vision we have. You know, they helped us create a vision for what we needed to do. So, while we had the money—the Wallace grant, at first, was important. If we lost Wallace dollars today, the leadership alliance would still be meeting, would still be working together. That’s exciting.

## Conclusions

These responses suggest that sites that are the furthest along in developing a CLS are likely to sustain the work and build upon it in the future. Leaders in these sites have been using creative strategies to overcome difficulties—formalizing their efforts in a legislated policy framework, garnering additional resources, distributing leadership roles, and demonstrating early wins—and they have expressed high levels of commitment. Indeed, the structural and process components of building a CLS both appear to be important factors in sustaining the work. Interviewees in sites that have strong alignment across policies and initiatives at the state and district level are hopeful that the investments they have made in alignment will help ensure that future policies and initiatives are also aligned to state standards and to each other. Finally, in sites where collaborative routines and behaviors had become the norm, interviewees predicted that states and districts will continue their joint work to improve school leadership.

## Support for the CLS Hypothesis

---

In this chapter, we examine the assumptions behind the CLS hypothesis. Up to this point, we have analyzed the sites' CLS-building efforts with the help of Foundation funding and technical support. We now ask whether these efforts are likely to reap the benefits they were designed to achieve: improved school leadership that supports improved student learning. We did not set out to examine effects on student learning, but we did examine whether the sites that had achieved the most-advanced leadership systems could be associated with other positive outcomes. In the following, we describe the research evidence that would indicate an association between cohesive policies and certain benefits, then we describe whether we found any such evidence.

The Wallace Foundation hypothesized that if states and districts work together to improve leadership standards, training for leaders, and the conditions leaders face, school leaders can be more effective. We attempted to examine these connections in our principal surveys and found that it was difficult to analyze principals' training and leadership standards, because their years of experience varied and they had completed many different preparation programs. Furthermore, although many were aware that their states had leadership standards, they could not identify a direct connection between those standards and other leadership improvement policies or initiatives.

However, principals provided a good deal of useful information on their conditions. With those data, we were able to describe specific conditions facing principals, including the extent to which they perceived they had the data, autonomy, resources, and accountability systems they required to be effective. We also asked principals whether they engaged in certain leadership practices, such as developing and implementing strategic goals and supporting the instruction of students, practices that studies have associated with improved student achievement. We then assessed whether principals who reported better conditions were more likely to engage in those practices. We also examined whether the responses of principals in the CLS sites differed from those of principals in the non-CLS sites.

Demonstrating a relationship between better conditions and more time on instructional leadership is not sufficient to demonstrate that one causes the other, since other factors may be influencing these outcomes. Nor does it offer any insight into whether greater cohesion improves either conditions or engagement in leadership prac-

tices. Nevertheless, demonstrating a positive association between positive conditions and greater engagement in instructional practices would offer some support for the Wallace hypothesis.

The CLS model defines effective school leaders as principals who (1) establish high expectations for all students, (2) use data and other means to diagnose shortfalls in instructional effectiveness and implement plans to strengthen instruction, and (3) focus attention and resources on improving instruction (The Wallace Foundation, 2006). A number of studies have indicated the importance of practices such as setting a vision or schoolwide goals, creating new learning opportunities for students and staff, directly observing classroom practices and providing quality feedback, promoting discussion about instructional issues, emphasizing the use of test results for program improvement, and developing opportunities for staff to participate in leadership (see, for example, Elmore, 2000; Fink and Resnick, 2001; Blase and Blase, 2004; Leithwood et al., 2004; The Wallace Foundation, 2006). In particular, observing classroom practices and providing quality feedback to teachers are considered central to learning-centered leadership (NCSL, 2007).

Recent studies have found that most principals do not spend as much time on activities directly related to learning as they would like. In a study on the implementation of SAMs in Jefferson County, most principals reported spending about 30 percent of their time on learning-centered activities prior to working with a SAM (Holland, 2008). More than two-thirds of the principals surveyed in a study in Pittsburgh were dissatisfied with the amount of time they were able to spend observing in classrooms and wanted to spend less time on administrative activities, such as dealing with budget, personnel, and administrative paperwork (Tharp-Taylor et al., 2009).

The CLS model assumes that the following critical conditions are particularly important: (1) adequate data to inform principals' decisions, (2) enough autonomy to enable them to direct resources (human and financial) where they are needed, and (3) supportive and transparent PD, evaluation, and accountability systems. This, too, is supported by research, which suggests that school leaders can be more effective if they have positive conditions (IEL, 2000; Portin et al., 2003; Leithwood et al., 2004; Knapp et al., 2006).

Our survey of principals was designed to provide data we could analyze to discover whether there is a link between positive conditions and more engagement in the reportedly effective leadership practices. It is important to note that our survey data were self-reported, and responses were therefore subjective. Even so, the survey responses provided an understanding of what principals consider to be enablers and hindrances in their working environments. We asked principals about the nature of the data they had available; the resources they had at their disposal; evaluations and PD; and their decisionmaking authority and autonomy. We also asked them whether governing agencies' roles and responsibilities were aligned; whether the policies under which they worked were burdensome, conflicting, or fragmented; whether they had

assistance with administrative duties; and whether their administrative staff was sufficient in number and of high quality.

To learn about their instructional leadership practices, we asked principals to report the time and effort they had spent on instructional leadership practices during the prior school year and whether the time spent was appropriate or sufficient. The practices included (1) developing and implementing strategic goals and school improvement efforts, (2) supporting the instruction of students, and (3) promoting the development and leadership of the school's teachers and staff. (Details of the construction of the indices for conditions and instructional leadership practices are provided in Appendix E.) We supplemented our analyses with interview and log data to highlight insights we gained from principals.

We present our survey findings in three sections. We first examine principals' conditions, focusing on principals in CLS sites, because the Foundation determined that progress had been made on improving conditions in these sites. We then turn to principals' reports on instructional leadership, again focusing on the CLS sites. We compare survey results from the CLS principals with those from the non-CLS principals to see whether there are differences between their perspectives on either conditions or instructional leadership practices by comparing mean differences between the survey responses of principals in the CLS sites (Delaware, Georgia, Illinois, Iowa, Kentucky, and Massachusetts) and those in the non-CLS sites (Indiana, Missouri, Oregon, and Rhode Island). Because we did not find many significant differences between the principals in these two groups, we grouped all of our survey respondents together and analyzed the relationship between conditions principals face and the time they spend on instructional leadership, the main focus this chapter. We conducted regression analyses to control for school characteristics and principal tenure to isolate relationships between reported conditions and leadership practices across all sites. We report standardized coefficients to indicate the magnitude of these relationships.<sup>1</sup> (Details of our methodological approach and analyses are presented in Appendix F.)

## Conditions

Responses of principals in CLS sites on their conditions were neither overwhelmingly positive nor negative (Figure 8.1).<sup>2</sup>

---

<sup>1</sup> A standardized coefficient is created by setting the means of all the variables in the model to 0, with a standard deviation of 1. A coefficient of 1.0 indicates that an increase of 1 standard deviation in a condition will bring about a 1-standard-deviation increase in the instructional leadership practice.

<sup>2</sup> Principals' responses varied greatly within the same district. The differences in perceptions could be due to different levels of expectations about the conditions, or they could signal a difference in principals' satisfaction with the district support or leadership. We were unable to probe further into the reasons for differences among principals' perceptions within each district using our survey data.

**Figure 8.1**  
**Mean Responses of Conditions for Principals in CLS Sites**

	Strongly disagree 0	Disagree 1	Agree 2	Strongly agree 3
1. Receive quality data (N=340)	1.8			
2. Receive sufficient resources (N=338)	1.4			
	Not at all 0	To a small extent 1	To a moderate extent 2	To a large extent 3
3. Have aligned governance (N=328)	2.0			
4. Politics are burdensome, conflicting, and fragmented (N=332)	1.5			
5. Receive quality district-provided tools, PD, and evaluations (N=336)	1.9			
6. District provides administrative support (e.g., school administration manager (SAM)) (N=336)	0.9			
7. District provides quality and sufficient leadership staff in school (N=333)	1.4			
	None 0	Some 1	A lot 2	Complete 3
8. Authority (N=337)	1.7			

RAND MG885-8.1

**Data.** Most principals were satisfied with the data they had at their disposal from the state and the district. On average, principals in the CLS sites agreed that the student assessment data they received were organized and easily accessible, accurate and reliable, and useful for helping staff improve teaching and learning (mean = 1.8). However, when we looked specifically at the extent to which state data were timely (presented in Table F.2), the CLS principals were, on average, dissatisfied with data timeliness (mean = 1.0).

**Resources.** On average, principals disagreed that they had sufficient resources (mean = 1.4), i.e., time, money, and personnel. This index comprises questions about the extent to which states and districts allocate resources fairly; the principal's access to sufficient resources to meet the academic, emotional, and social needs of students; the adequacy of facilities and transportation; and the adequacy of time and staff for the principal to effectively lead the school. Principals' responses to these questions were not surprising given that in other research, principals often noted a lack of resources as a key constraint on their effectiveness (e.g., Johnson, Arumi, and Ott, 2006). Studies also suggest that the increased emphasis on the principal's responsibility for instructional leadership has not brought about a concomitant decrease in administrative duties (Lashway, 2002; Marks and Printy, 2003).

**Aligned governance and burdensome/conflicting policies.** On average, principals in CLS sites reported that the roles and responsibilities of governing entities were moderately aligned (mean = 2.0) and that state and district policies were burdensome, conflicting, or fragmented to a small to moderate extent (mean = 1.5).

**Quality tools, PD, evaluations, and other administrative staff.** Principals in CLS sites reported that their districts provided tools and training on data, high-quality PD opportunities, and performance evaluations that were based on state leadership standards, were focused on instructional leadership, and were clear and transparent to a moderate extent (mean = 1.9). They reported that their district provided direct assistance with administrative duties to only a small extent (mean = 0.9). Similarly, they reported that their district provided sufficient and qualified leadership staff (e.g., assistant principals or school-based coaches) to a small extent (mean = 1.4).

**Authority.** On average, principals in CLS sites reported having between some and a lot of authority over a number of schooling decisions (mean = 1.7). However, some clear differences emerged on specific items (see Table F.9 in Appendix F). Principals in CLS sites reported having a lot of authority over hiring teachers (mean = 2.2), setting the school's schedule (mean = 2.2), and setting achievement goals (mean = 1.9). They reported having only some authority over evaluating teachers (mean = 1.2), removing teachers (mean = 1.4), and removing administrators (mean = 1.2).

Principals in non-CLS sites reported a lower level of authority, on average (mean = 1.2). As shown in Table F.9, principals in CLS sites reported having significantly more authority over establishing the school's curriculum, selecting textbooks, and removing teachers than principals in non-CLS sites had. This may be a result of the efforts made in the CLS sites to improve conditions, or it may simply be due to variance in the districts studied that is not related to CLS-building efforts. Our interviews with district personnel did not provide a consensus on what would constitute ideal authority levels across schools in their districts; indeed, reports on this topic were conflicting.

Principals themselves held different views on the value of autonomy. In the open-ended survey responses, some principals reported that they appreciated having the district provide them with research-based curricula and associated textbooks. In interviews, some principals praised the district for providing standardized curricula across all schools, because it facilitated mobile students' success. But others would have preferred more control over the curriculum. In some cases, the desire for control seemed to be related to a desire to satisfy teachers who wanted to keep a curriculum they knew and liked. One principal reported that "teachers resent a new literacy curriculum. Our school's version is excellent. I advised teachers to integrate good parts of the new one and keep the old one."

In the interviews, many more principals noted their lack of authority over removing teachers and administrators (often referencing unions as an obstacle) than their lack of authority over the curriculum. They wanted to be able to remove poorly per-

forming teachers, although it appeared that they would not remove many: 65 percent of surveyed principals would remove only 1 to 10 percent of their teachers, if they could, and another 22 percent would remove 11 to 25 percent. This finding aligns with the findings of recent research in California. When asked what change would help them improve student outcomes most, principals most often cited greater freedom to fire teachers. This authority was more important to them than additional resources of any variety (Fuller et al., 2007).

While there is little empirical evidence to suggest that granting principals more authority over hiring or firing decisions would lead to improved student learning, most of the principals in our study considered lack of such authority to be an important barrier to doing their job effectively. Principals we interviewed reported spending much time and energy on multiple year-long removal processes for a small number of teachers. Because this process takes time and attention, students are subjected to poor teaching in the meantime, and principals are prevented from spending time on other efforts to improve instruction. One principal said, “I have some teachers who are not getting the job done. Putting them on an improvement plan is a two- or three-year process which means 600 kids are flushed away.” Another survey respondent wrote:

Until I have the authority to hire the right teachers and to remove those who are underperforming, there will be relatively few changes in true academic growth of students. The teachers’ union has more control of outcomes than administration—that doesn’t seem right.

In sum, principals in CLS sites reported, on average, that state and district data were organized, reliable, and useful, but that state data were not timely. They also reported that they did not have sufficient resources, on average (funding, time, or staff). Governing bodies appeared to be moderately aligned, and districts seemed to be providing principals with quality PD, evaluations, and other tools. Yet principals reported insufficient administrative support or additional leadership staff, such as assistant principals and coaches. Furthermore, principals in CLS sites reported having a lot of autonomy over some schooling decisions but expressed a desire for more authority to remove teachers who performed poorly.

### **Instructional Leadership Practices**

Table 8.1 shows the mean responses for time spent and appropriateness of time spent on instructional leadership practices of principals in CLS sites. On average, principals spent time on a variety of instructional leadership practices and reported that the time they spent was appropriate.<sup>3</sup>

---

<sup>3</sup> We found some variation at the school level (not shown). Primary school principals reported spending more time on school improvement, motivating students, engaging teachers, and promoting staff PD than principals of middle and high schools did. They also reported being more satisfied with the time they spent building a common

**Table 8.1**  
**CLS Principals' Responses on Time Spent and Appropriateness of Time Spent on Instructional Leadership Practices**

Practice	Time Spent <sup>a</sup> (mean)	Appropriateness <sup>b</sup> (mean)
Development and implementation of strategic goals and school improvement efforts		
Building a common vision (N = 326)	0.47	0.68
School improvement efforts (N = 326)	0.64	0.77
Supporting the instruction of students		
Ensuring a supportive learning environment (N = 327)	0.75	0.77
Motivating students (N = 327)	0.58	0.76
Monitoring classroom instruction (N = 325)	0.30	0.58
Engaging with teachers outside of the classroom (N = 327)	0.58	0.74
Promoting the development and leadership of the school's teachers and staff		
Promoting staff professional development (N = 326)	0.46	0.71
Motivating staff (N = 325)	0.44	0.72
Developing leadership teams (N = 325)	0.55	0.79

<sup>a</sup> Scale: 0 = no time or some time and effort; 1 = a great deal of time and effort.

<sup>b</sup> Scale: 0 = insufficient or excessive for this school; 1 = appropriate and sufficient.

Principals generally reported spending most of their time and effort on practices related to ensuring that the school provided a supportive environment for student learning (mean = 0.75). This index comprises survey questions related to ensuring that disruptions of instructional time are minimized and the establishment of a safe and orderly environment.

On average, principals in CLS sites reported spending the least time and effort on tasks related to monitoring classroom instruction (mean = 0.30). They were also least likely to report that the time spent on this practice was sufficient (mean = 0.58). This index included such activities as collecting and examining student work, organizing walkthroughs or classroom visits, and reviewing and providing feedback on teacher lesson plans.

Comments in the end-of-day logs and interviews illustrate principals' frustration with the lack of time spent in the classroom. One principal noted in an interview that much of her time was spent on complying with district mandates, rather than on educating students. She noted that "more time [is] spent on chasing paperwork rather

---

vision, creating a supportive environment for students, engaging teachers, motivating staff, and fostering leadership among their staff.

than ensuring that teachers are teaching these kids.” Another principal noted in her end-of-day log that repeated interruptions throughout the day interfered with the time she could have devoted to visiting classes:

I planned to conduct a series of walkthroughs but was hindered by having to respond to situations that arose all day. I was hindered by still not having an assistant or an experienced secretary or additional support staff so that I had to take care of the behavior issues, parent concerns, personnel issues, purchasing issues, etc., that were more than in a normal day. By the time these things were taken care of, there was no time to do my walkthroughs. I will try again tomorrow.

A principal in a different district also noted the difficulty of finding time to get into the classroom. In one end-of-day log, she commented:

[Attending to instructional leadership] is what I worry about the most and [what] keeps me up at night. The other stuff can completely take over your life. [I have] 26 initiatives going on in my building. I am grateful to have parents who manage most of those initiatives with me, but if I let it take over my day I would never be able to see that classroom.

We examined differences between mean responses of principals in CLS sites and those in non-CLS sites on all of the instructional leadership practice indices. Findings are displayed in Tables F.10 through F.27 in Appendix F. On average, principals in non-CLS sites reported spending significantly less time on developing leadership teams than did principals in CLS sites (see Table F.26). This is the only practice of the nine we posed on the survey on which CLS principals’ responses differed from those of non-CLS principals. We therefore found little evidence that CLS principals were able to spend more time on instructional leadership practices. As described below, conditions such as authority, PD, and evaluation systems were related to time spent on instructional leadership practices. It could be that even though CLS sites were found to have made progress on improving conditions, districts had not fully developed PD or evaluation systems that supported and incentivized instructional leadership practices. Furthermore, we found a lack of consensus on principals’ optimal levels of authority.

A more telling difference between the CLS and non-CLS principals was that the latter were significantly more likely to report spending insufficient time on most of the instructional leadership practices: school improvement efforts (Table F.13), creating a supportive learning environment for students (Table F.15), motivating students (Table F.17), engaging with teachers outside of the classroom to improve instruction (Table F.21), promoting staff development (Table F.23), and motivating staff (Table F.25). These findings suggest that principals in non-CLS sites were more dissatisfied with how they spent their time than were principals in the CLS sites. Our data did not allow us to speculate on why this might be the case.

### Links Between Favorable Conditions and Engagement with Instructional Leadership Practices

We found that for nearly every condition, favorable reports were positively associated with more engagement in instructional leadership practices. (Only one condition did not show this correlation, as described below.) Furthermore, availability of adequate resources was positively related to engagement in (and appropriateness of time spent on) *all* instructional leadership practices. On their end-of-day logs, many principals reported that lack of adequate resources hindered their ability to engage in a particular practice on the day in question. This was the most frequently reported hindrance.

We also found the following links between conditions and practices:

- District-provided PD, tools, and evaluations had the strongest relationship with time spent on instructional leadership practices, particularly for monitoring classroom instruction and engaging with teachers outside of the classroom to improve instruction. In the interviews, many principals reported that the support of their supervisor and the PD they received were strong enablers of their ability to lead their schools.
- Timely access to reliable and useful data was positively related to time spent on a number of instructional leadership practices and principals' perceptions of the appropriateness of time spent. In particular, principals who reported having access to better data also reported spending more time on building a common vision and monitoring classroom instruction. Our qualitative data provided some examples of how principals used data to improve classroom instruction. One survey respondent wrote, "More focus on data-driven decisions has improved understanding of student progress. . . . It has sharpened and deepened the teacher's conversation about instruction and what constitutes good instruction."
- Authority over decisionmaking was positively related to time spent on almost all of the instructional leadership practices and was most correlated with principals' time spent on promoting staff PD and motivating staff. It also had a positive relationship with appropriateness of time spent building a common vision, monitoring classroom instruction, and developing leadership staff.

Interestingly, the one condition that was *not* linked to engagement in leadership practices was conflicting, burdensome, or fragmented policies. That is, the absence of this condition did not appear to improve time spent on instructional practices. Neither did this condition impede instructional leadership practices (i.e., we did not find a negative association between them). One possible explanation for this finding is that principals may have found ways to circumvent burdensome policies. For example, an elementary school principal with four years of experience told us in an interview, "I think outside the box and don't let the district stop me." An elementary school principal with three years of experience reported that "principals just have to do what's right

and ask for permission later.” A high school principal near retirement said that because he is at end of his career, he feels free to “act out.” A high school principal reported hiring teachers who did not yet have tenure so she could fire them if necessary and that she had recently hired someone to serve as dean who was not qualified for this role according to district rules. Instead of confronting the district, she hired him under another title, with an agreement that he function as dean. (For detailed findings, see Tables F.28 through F.43.)

## Conclusions

Overall, principals in CLS sites were somewhat discontented with their conditions, and their responses highlight areas for improvement. The CLS model emphasizes the importance of states working with districts to ensure that conditions such as levels of autonomy, targeted resources, and data are sufficient to enable effective school leadership. More work is needed on improving these conditions, with a particular focus on timely state data, authority levels, and sufficient resources.

Our survey findings, log reports, and interviews provide modest support for the CLS hypothesis by showing that perceptions of more-positive conditions were associated with principals spending more time on practices that have been linked to improved student learning. However, we recognize the limitations of this analysis: We could not confirm that these are causal relationships (it could be that leaders who have more time for instructional leadership are more satisfied with their work in general or that they are more generous in their assessment of their conditions), and we cannot establish a link between more-cohesive leadership systems and better conditions, or between more-cohesive systems and more engagement with effective practices. That would require further analysis of many more principals across the country, including those in districts that are not part of the Wallace network.

## Recommendations

---

We have shown that it is possible to develop CLSs between states and districts to improve school leadership. We have identified the approaches that appear most effective in developing such systems, as well as certain local conditions that create a favorable environment for this work. Several of the sites in our study have achieved significant policy changes, particularly in principal preparation programs and statewide principal evaluation systems. State actors were most likely to be taking the lead in building CLSs, although districts played important roles and had many school leadership improvement initiatives under way. Many of our interviewees at both the state and district levels expressed high levels of engagement, enthusiasm, and dedication to their work in this area. They were optimistic that a more-cohesive leadership system would lead to better student outcomes and were putting strategies in place to sustain the progress they had made to date. District officials also credited state involvement and mandates with providing increased funding, technical support, and an “excuse” to improve leadership in their districts. We were not able to examine whether such systems improve student outcomes, and we acknowledge that cohesion can be built around ineffective policies and initiatives. But our analysis offers valuable insights on the importance of certain conditions for the ability of principals to engage in a range of practices to improve instruction in their schools.

In this chapter, we provide some practical lessons drawn from the experiences of the hundreds of people we interviewed who are engaged in this work. Although we focus on lessons learned about system-building for the purpose of improving school leadership, our recommendations are intended to be helpful to anyone engaged in developing closer working relationships between states and districts that can result in more-aligned policies for improving education.

### Early Steps

#### **Consider Local Contexts and Address the Challenges They Pose**

States interested in developing CLSs would benefit from a close examination of their context and their capacity for the work. This study found that sites with a culture

and history of collaboration and strong social networks were better suited for such efforts. Strong organizations and individuals who have the capacity and desire to lead system-building efforts and connect them to other reform efforts by virtue of their social capital are also important contextual conditions for success, as is a supportive political structure for public education reform. If states are taking the lead role in this work, selecting pilot districts in which the superintendent and the board members have aligned reform visions facilitates success. However, key challenges include limited resources, cultures of independence, and reform “burnout.” Building cohesive systems under these conditions is more difficult. To ensure success in building cohesive systems and improving school leadership, sites may want to gauge how beneficial the local culture and political structure are and address any potential barriers before launching reform efforts.

### **Identify Strong Lead Organizations and Individuals**

Although lead agencies in our study sites varied, the most advanced sites had in common a strategic approach to selecting the agency, and this distinguished them from most other sites. The advanced sites assessed the internal capacity of their SEAs, taking into account whether staff would be able to think and work outside the boundaries created by categorical federal programs, as well as the overall credibility of the SEAs and their political priorities. They then built distributed leadership systems in which several different types of organizations (e.g., universities, professional associations, regional offices, principal leadership academies, districts) held key lead roles. By contrast, several of the other states chose the SEA as the sole lead agency and came to believe that it did not have the staff or other resources to be effective.

Moreover, in advanced sites, strong leaders working from significant bases of power and influence had garnered political support for the importance of school leadership and the need to improve it. They also connected school leadership efforts to broader reform initiatives in the state, which helped sustain the leadership work and minimized burdens on schools and districts. Interviewees in the sites with the most advanced systems could easily point to these leaders, who have led the work for several years now. We recommend that state and district actors carefully consider the capacity of both individuals and organizations when selecting leaders to serve in coordinating roles.

### **Capitalize on External Expertise and Funding**

Sites in our study engaged external organizations, notably The Wallace Foundation, but also others such as SREB, and key experts in school leadership to help them identify their capacity to create CLSs, as well as to assess where they stood on school leadership improvement efforts compared with similar sites. They used this information to identify areas of improvement and to benchmark their progress over time. The sites benefited greatly from The Wallace Foundation’s funding as well. Securing similar

levels of funding may be challenging, but local foundations near the study sites helped fund their work, both before and during the course of Wallace funding. We recommend that other sites investigate the array of monetary support and technical assistance available, including advice and guidance that the sites described in this report are willing to provide.

## **Implementation Phase**

### **Build Trust and Mend Fences**

We heard about many past and current acrimonious relationships between state and district actors. We also uncovered some approaches to building trust, such as acknowledging that the state and the districts are “in this together” and ensuring that state actors take the time to understand district contexts to develop the capacity to provide useful technical assistance. Although discord across organizations may be a significant barrier to building cohesion, it is possible to repair relationships between district and state actors, as Kentucky’s experience proves. New state actors were able to repair relationships between district and state organizations in Georgia as well. Because there are undoubtedly many discordant relationships across the country, it may be important for new sites to establish trust among the state and district actors. Once trust has been established, it is easier to develop common understandings, shared goals, and joint ownership of the work.

### **Engage a Broad Coalition of Stakeholders**

Across the study sites, building cohesion involved not only attending to policy and programmatic alignment within and across layers of the system, but also a process of engaging stakeholders and fostering agreement. Engagement required time and resources for coordination. It was also important to involve relevant stakeholders and give them the authority to make decisions, which fostered buy-in, rather than implementing new policies or initiatives without high levels of agreement. It was particularly important for the more cohesive sites to routinely gather key state and district leaders into the same room to collectively discuss leadership and develop policies and initiatives to improve it. Incentives were useful for garnering participation—several sites provided pilot funding to districts that were willing and able to take the lead in implementing leadership improvement programs. In addition, demonstrating that an initiative led to a desired outcome helped to convince others to join in the work. We recommend that sites wishing to develop CLSs explore strategies to ensure buy-in and foster agreement from as broad a portion of the educational community as possible. They may want to employ the strategies deemed successful by the study sites, or they may choose to develop their own.

### **Hone Skills at Applying Pressure While Providing Support**

Although the study states reported struggling with the tension between providing support and holding districts accountable, those that were more successful in managing this tension also had more-advanced CLSs. To effectively apply pressure, state agencies had to be willing and able to exercise their powers. And state-provided support was effective only when state actors and agencies could provide the expertise that districts needed. Combining pressure with support is a strategy that should benefit both states and districts in any education endeavor, not just those focused on improving school leadership.

### **Recognize Innovative Districts as “Lead Learners”**

Several states in our study recognized districts that were already doing important work on leadership development and used their innovations as models for other districts. They considered those districts “lead learners.” States are well positioned to foster such innovations, evaluate their effectiveness, and spread them to other districts.

### **Connect Leadership Efforts to Standards and to Other Reforms in the State**

Savvy leaders in the more-cohesive sites based their leadership reform efforts on state-wide standards and connected their CLS-building efforts to other reforms in their states, such as high school and middle school reform programs. Leaders who were deeply socially networked were particularly successful in this realm. Sites would do well to employ this strategy, as it provides an anchor upon which to align policies and initiatives and might foster viability for leadership improvement work and sustainability in the future.

## **Evaluation, Sustainment, and Expansion**

### **Solidify Programs and Funding Through Legislation and Regulations**

Several of our study sites passed legislation and issued mandates to ensure implementation and funding of key leadership improvement efforts, such as mentoring, evaluation systems, and the redesign of pre-service programs. Although some interviewees worried about whether implementation would be faithful to the intent of the legislation, most celebrated the passing of legislation or mandates, describing these actions as critical steps in the overall reform effort.

### **Engage in Continuous Learning and Improvement**

Respondents recommended that individuals and organizations involved in CLS-building seek and share expertise. In particular, they recommended participating in networks, attending conferences such as those supported by SREB and The Wallace Foundation, and referencing and conducting research. These types of activities helped

sites determine how to move the work forward in their particular contexts. Some respondents reported the importance of collecting data to demonstrate that building a CLS had made a difference in their sites. These efforts were just starting in some sites but were likely to be important for attracting future funding.

### **Commit to Engaging in the Work over the Long Term**

Many of the people we interviewed reported that building more-collaborative relationships between states and districts was hard work that required continuous effort. Four sites were able to implement only a few initiatives to improve leadership or build mature cohesive systems, despite receiving funding and support similar to that received by other sites. These states encountered many challenges, such as frequent turnover of key leaders, weak leaders and organizations in general, a history of discord across organizations, cultures of independence, or a lack of key political support. Even sites that had relatively advanced CLSs, like Iowa, reported that their accomplishments had taken years of hard work and were not easily achieved. A respondent from Iowa noted:

I know in Iowa we are moving along, but even after the number of years we have had the Wallace funding, we are only now moving down the track at an acceptable speed. This kind of work takes a tremendous amount of time and only now do we have a clear direction and feel we are about to make a significant breakthrough at the state level.

Clearly, this work is not easy, and sites may not experience significant policy changes in their first few years of engaging stakeholders and coming to agreement on the importance of leadership and the most useful strategies for improving it in their state and districts. We hope that new sites recognize the level of effort that this work takes.

We also hope this monograph provides useful strategies and insights for state- and district-level officials who are willing to build the kind of broad collaboration that, given enough time and effort, can lead to significant policy changes.



## Background Information on Study States and Districts

---

The states and districts examined in this study vary in a number of characteristics, including region of the United States, number of students enrolled in public schools, percentage of minorities, percentage of English-language learners, percentage of economically disadvantaged students, and whether the district is making AYP. The variation in sociodemographic characteristics and academic achievement provides an important contextual backdrop against which to compare the leadership improvement efforts of the sites and their progress toward building CLSs. This appendix provides a sociodemographic portrait of our study sites and displays trends in student achievement.

### Sociodemographic Portrait

Table A.1 provides background information on the states and districts in the study. Each of the U.S. Census Bureau's four regions is represented: the Northeast (Massachusetts and Rhode Island), the South (Delaware, Georgia, and Kentucky), the Midwest (Illinois, Indiana, Iowa, and Missouri), and the West (Oregon). The states range in size of public school enrollment; together, they comprise 17 percent of the students educated in public schools in the United States.

Six of the 17 school districts (Atlanta, Boston, Chicago, Jefferson County, Portland, and St. Louis) are large urban districts, with enrollments in public schools ranging from about 38,000 students in St. Louis to more than 400,000 students in Chicago. Seven districts (Davenport, Eugene, Fort Wayne, Providence, Springfield (IL), Springfield (MA), and Waterloo) are located in smaller cities and have enrollments of between about 10,000 and 30,000 students. The remaining districts include Christina, which encompasses both a part of the city of Wilmington, DE, and the suburban town of Newark, NJ; Appoquinimink, which is centered in the small but fast-growing town of Middletown, DE; Indian River, a rural district in southern Delaware; and Clear Creek Amana, a very small, mostly rural district near Iowa City, IA.

Not surprisingly, the student demographics of the districts vary a great deal. Minority enrollment ranges from 9 percent in Clear Creek Amana to 92 percent in Chicago, while enrollment of economically disadvantaged students ranges from 14 per-

**Table A.1**  
**Demographic Portrait of Study Sites in 2007**

Site	Number of Districts in State	Number of Schools in State	Urban Designation of District	Student Enrollment (total/% of state)	% Minority	% English-Language Learners	% Eligible for Free/Reduced Lunch—Economically Disadvantaged
Delaware	19	234		122,254	46.0	5.5	37.0
Appoquinimink			Town, fringe	7,588 (6.2)	29.9	2.1	13.5
Christina			Suburb, large	18,495 (15.1)	59.2	7.3	38.6
Indian River			Town, distant	8,138 (6.6)	36.7	7.4	44.6
Georgia	182	2,463		1,629,157	53.1	4.0	50.3
Atlanta			City, large	50,631 (3.1)	91.1	2.2	74.9
Illinois	875	4,392		2,118,276	45.3	9.3	38.8
Chicago			City, large	413,694 (19.5)	91.9	16.4	75.3
Springfield			City, midsize	14,875 (0.7)	45.7	0.4	58.4
Indiana	295	1,969		1,045,940	23.2	4.2	37.3
Fort Wayne			City, midsize	31,884 (3.0)	43.8	5.3	56.5
Iowa	365	1,509		483,122 <sup>b</sup>	14.9 <sup>b</sup>	3.8	33.4 <sup>b</sup>
Clear Creek Amana			Rural, distant	1,438 <sup>b</sup> (0.3)	8.8 <sup>b</sup>	0.2 <sup>a</sup>	20.2 <sup>b</sup>
Davenport			City, small	16,275 (3.4)	34.9	1.9 <sup>a</sup>	50.5 <sup>b</sup>
Waterloo			City, small	10,590 (2.2)	38.4	5.5 <sup>a</sup>	49.4 <sup>b</sup>
Kentucky	176	1,534		683,173	20.2	1.6	48.5
Jefferson County			City, large	91,425 (13.4)	45.5	4.3 <sup>a</sup>	25.9 <sup>c</sup>
Massachusetts	356	1,879		968,661	28.5	5.8	28.5
Boston			City, large	56,388 (5.8)	86.5	18.3	72.7

Table A.1 (continued)

Site	Number of Districts in State	Number of Schools in State	Urban Designation of District	Student Enrollment (total/% of state)	% Minority	% English-Language Learners	% Eligible for Free/Reduced Lunch—Economically Disadvantaged
Springfield			City, midsize	27,791 (2.9)	81.7	13.7	77.5
Missouri	524	2,384		920,353	23.7	2.0	41.8
St. Louis			City, large	38,277 (4.2)	86.7	14.0	73.8
Oregon	199	1,284		562,574	29.6	11.2	41.3
Eugene			City, midsize	17,896 (3.2)	27.3	2.6	30.8
Portland			City, large	44,478 (7.9)	44.6	12.0	45.3
Rhode Island	32	336		151,612	30.5	6.6	32.7
Providence			City, midsize	24,922 (16.4)	88.0	21.2	66.5
Nation	14,556	100,308		49,843,083	45.0	5.0	41.8

SOURCE: CCSSO, 2009.

NOTE: City, large = a territory inside an urbanized area and inside a principal city with a population of 250,000 or more. City, midsize = a territory inside an urbanized area and inside a principal city with a population of less than 250,000 and more than or equal to 100,000. City, small = a territory inside an urbanized area and inside a principal city with a population of less than 100,000. Suburb, large = a territory outside a principal city and inside an urbanized area with a population of 250,000 or more. Town, fringe = a territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area. Town, distant = a territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area. Rural, distant = U.S. Census–defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster.

<sup>a</sup>Common Core of Data (CCD), 2006–2007, National Center for Education Statistics (NCES), U.S. Department of Education, 2009.

<sup>b</sup>Figures are for 2008.

<sup>c</sup>Figure is for 2006.

cent in Appoquinimink to 78 percent in Springfield (MA). Most of the districts could be characterized as greatly challenged. Twelve of the 17 districts have a greater percentage of economically disadvantaged students than the nation as a whole, and nine have a greater percentage of English-language learners. Six of the districts (Atlanta, Boston, Chicago, Providence, Springfield (MA), and St. Louis) have especially high-needs student populations. Each of these six districts has over 80 percent minority enrollment, and two-thirds or more of the students are economically disadvantaged.

### **Trends in Adequate Yearly Progress**

Table A.2 shows whether each district in our study met AYP on the state's student assessments from 2004 to 2008.<sup>1</sup> This information is important for understanding how districts are performing relative to the state's educational standards and what kind of performance pressures the district may be under. According to NCLB legislation, districts that fail to meet a state's AYP targets are considered to be "in need of improvement." If the district fails to achieve AYP two years after it was first identified as being in need of improvement, the state may take a number of actions, including deferring program funds or reducing administrative funds, removing the district's staff, removing schools from the district's jurisdiction, or permitting students to transfer to other districts. Only two of our study districts (Clear Creek Amana and Indian River) met AYP consistently during the five years we tracked.

### **Trends in National Assessment of Educational Progress Scores**

We compared achievement across states with data from the National Assessment of Educational Progress (NAEP). According to the NAEP website, "The National Assessment of Educational Progress . . . is the only nationally representative and continuing assessment of what America's students know and can do in various subject areas."<sup>2</sup> NAEP, often called "the Nation's Report Card," is periodically administered to a sample of students in each state, enabling comparisons across time and across states. For this analysis, we collected average scale scores in fourth- and eighth-grade math and reading for the 10 states in the study, as well as NAEP's nationally representative

---

<sup>1</sup> NCLB required all states to test students in grades 3 through 8 plus a high school grade to develop timelines to bring all students to proficiency by 2014 and to establish a system to determine which schools and districts are failing to make AYP. States were given several years of transition to expand their testing systems to cover all required grades and to determine benchmarks against which AYP would be measured. A state's determination of a district's AYP is based on whether the district is meeting designated performance targets. This definition differs across states.

<sup>2</sup> National Center for Education Statistics, nd.

**Table A.2**  
**Study Districts' AYP Status (2004–2008)**

State/District	Made AYP in 2004	Made AYP in 2005	Made AYP in 2006	Made AYP in 2007	Made AYP in 2008
Delaware					
Appoquinimink	Yes	Yes	Yes	No	No
Christina	Yes	No	Yes	No	No
Indian River	Yes	Yes	Yes	Yes	Yes
Georgia					
Atlanta	No	No	No	No	No
Illinois					
Chicago	No	No	No	No	No
Springfield	No	No	No	No	No
Indiana					
Fort Wayne	No	No	No	No	NA
Iowa					
Clear Creek Amana	Yes	Yes	Yes	Yes	Yes
Davenport	No	No	No	Yes	No
Waterloo	No	No	No	Yes	No
Kentucky					
Jefferson County	No	No	No	No	No
Massachusetts					
Boston	No	No	No	No	No
Springfield	No	No	No	No	No
Missouri					
St. Louis	No	No	No	No	No
Oregon					
Eugene	No	No	No	No	No
Portland	No	No	No	No	No
Rhode Island <sup>a</sup>					
Providence	No	(a)	No	No	No

SOURCE: State department of education websites.

NOTE: NA = not available.

<sup>a</sup>In 2005, Rhode Island administered high school exams only; it made no district designation of AYP.

public school sample in 2003 and 2007. The most recent NAEP results were from 2007. We chose 2003 as a comparison year because it was the first year in which all the states in our study participated in both the reading and math assessments. Data were downloaded using the NAEP Data Explorer tool on the NAEP website.

Tables A.3 and A.4 display the average scale scores in fourth- and eighth-grade math and reading in 2007 and the difference from 2003 to 2007 between each state's

**Table A.3**  
**2007 NAEP Scale Scores for 4th and 8th Grade Math and Reading**

State	Grade 4 Math		Grade 4 Reading		Grade 8 Math		Grade 8 Reading	
	Avg. Scale Score	Difference Between State and National Scale Scores	Avg. Scale Score	Difference Between State and National Scale Scores	Avg. Scale Score	Difference Between State and National Scale Scores	Avg. Scale Score	Difference Between State and National Scale Scores
Delaware	242	3*	225	5*	283	3*	265	4*
Georgia	235	-4*	219	-1	275	-5*	259	-2*
Illinois	237	-2	219	-1	280	0	263	2
Indiana	245	6*	222	2	285	5*	264	3*
Iowa	243	4*	225	5*	285	5*	267	6*
Kentucky	235	-4*	222	2*	279	-1	262	1
Massachusetts	252	13*	236	16*	298	18*	273	12*
Missouri	239	0	221	1	281	1	263	2*
Oregon	236	-3*	215	-5*	284	4*	266	5*
Rhode Island	236	-3*	219	-1	275	-5*	258	-3*
Nation	239	NA	220	NA	280	NA	261	NA

NOTE: An asterisk signifies that the difference between the state scale score and the national scale score is statistically significant.

**Table A.4**  
**Change in Average Scale Scores from 2003 to 2007**

State	Grade 4 Math			Grade 8 Math			Grade 4 Reading			Grade 8 Reading		
	2003 Avg. Scale Score	2007 Avg. Scale Score	Chg.	2003 Avg. Scale Score	2007 Avg. Scale Score	Chg.	2003 Avg. Scale Score	2007 Avg. Scale Score	Chg.	2003 Avg. Scale Score	2007 Avg. Scale Score	Chg.
Delaware	236	242	6*	277	283	6*	224	225	1	265	265	0
Georgia	230	235	5*	270	275	5*	214	219	5*	258	259	1
Illinois	233	237	4*	277	280	3*	216	219	3	266	263	-4*
Indiana	238	245	7*	281	285	4*	220	222	1	265	264	-1
Iowa	238	243	4*	284	285	1	223	225	2	268	267	0
Kentucky	229	235	6*	274	279	4*	219	222	3	266	262	-4*
Massachusetts	242	252	11*	287	298	11*	228	236	8*	273	273	0
Missouri	235	239	5*	279	281	2	222	221	-1	267	263	-4*
Oregon	236	236	0	281	284	3	218	215	-3	264	266	2
Rhode Island	230	236	6*	272	275	3*	216	219	2	261	258	-3*
Nation	234	239	5*	276	280	4*	216	220	4*	261	261	0

NOTE: An asterisk signifies that the change in scale score from 2003 to 2007 is statistically significant.

average scale score and the national average scale score for each grade and subject. Differences marked with an asterisk in the tables are statistically significant, as tested by NAEP.<sup>3</sup>

As Table A.3 shows, there was a great deal of variation in results on the NAEP test across the states in our study in 2007. Georgia and Rhode Island achieved at lower levels than the national sample, while Delaware, Indiana, and Iowa performed at higher levels than the national sample. Massachusetts was by far the highest performer in 2007, with achievement levels considerably higher than the national sample. Kentucky was a high achiever in fourth-grade reading but a low achiever in fourth-grade math. Oregon performed well on the middle school assessments but below the national sample on the elementary-level assessments.

Table A.4 shows that, in general, math achievement increased from 2003 to 2007 in the states, as well as the nation as a whole, and most of these changes were statistically significant. Again, Massachusetts took the lead, increasing its average scale score in fourth- and eighth-grade math by 11 points in each case. The story in reading achievement was very different. Although fourth-grade reading improved in the nation as a whole from 2003 to 2007, it improved in only two of the 10 states in the study, Georgia and Massachusetts. Achievement in eighth-grade reading remained the same in the nation and either remained the same or decreased in the study states.

---

<sup>3</sup> We report the results of statistical tests produced by the NAEP Data Explorer. NAEP uses t-tests, and differences are reported as significant if they meet the 5 percent threshold.



## Indicators of Leadership Policy Initiatives, Factors of Cohesion, Conditions, and Effective Leadership Practices

---

The Wallace Foundation's hypothesis asserts that one element of a CLS is a set of conditions and incentives that support effective leadership, including necessary data to inform decisions, authority to direct needed resources (people, time, and money), and policies governing recruitment, hiring, placement, and evaluation of school leaders that support student learning goals. The Foundation suggests that states and districts should act to put these conditions in place. During our first site visit (to Chicago and Springfield, IL) we asked site representatives about their efforts in this regard. Their responses suggested that there might be conditions that influence the effectiveness of leaders in addition to those outlined in the CLS hypothesis. Therefore, we conducted a review of the literature on school leadership and school improvement to generate a more detailed list of conditions that research suggests might support effective leadership. This list, provided below, was used to guide revisions of interview protocols and the development of our study's online survey and logs.

### I. Policies and Initiatives on Standards, Training, and Conditions

1. Number, types, and reach of policies, programs, legislation, etc.
  - a. Standards
  - b. Evaluation
  - c. Training
    - i. Pre-service preparation
      1. Improving recruitment
      2. Improving content of programs
      3. Providing internships
      4. Providing mentoring
    - ii. In-service PD
      1. In-service/induction
      2. Mentoring
      3. PD

- d. Licensure
  - i. Provisional license
  - ii. Initial leader licensure/certification
  - iii. Relicensure/certification/professional licensure
  - iv. Advanced license/master principal
- e. Conditions (see list under III below)
  - i. Principal autonomy
  - ii. Data use and monitoring
  - iii. Resource allocation
  - iv. Curriculum and instruction
  - v. Interventions for low-performing schools and students
  - vi. Staff selection, PD, and effectiveness
  - vii. Governance
  - viii. Parent and community engagement
  - ix. School culture

Strategies for implementing leadership actions

- a. Technical assistance
- b. Communications strategy
- c. Informal coalitions/formal commissions or task forces
- d. Technological tools

Enabling and impeding factors for actions

- a. Capacity of state-level entities
- b. Leadership
- c. Turnover
- d. Resources (time and money)
- e. Involvement of stakeholder
- f. Political culture

Sustainability and other remaining challenges for actions

- a. Changes to legislation or other formal policy
- b. Sustainable funding (e.g., budget line item)
- c. Institutionalization of leadership staff or departments

**II. Cohesion in Standards, Training, and Conditions Across a Site (Study Districts Within a State)**

- 1. Structural components of cohesion
  - a. Comprehensiveness of leadership improvement policies and initiatives
    - i. That follow the career continuum of school leaders (from pre-service through retirement)

- ii. That encompass the gamut of school leaders (from teacher leaders through school boards)
  - b. Extent of alignment
    - i. Among leadership improvement actions
    - ii. Between leadership improvement actions and broader actions to improve student achievement
- 2. Process components of cohesion
  - a. Breadth of engagement of stakeholders
  - b. Extent to which actions represent a common vision of leadership (what leaders should know and be able to do)
  - c. Extent of coordination
    - i. Presence of a clear coordinating body
    - ii. Evidence of a coordinated effort over a sustained period of time
    - iii. Strategic use of resources, coordinated with actions

#### Strategies for building cohesion

- a. Dedicated time for joint goal-setting/planning/taking action
- b. Inclusion of multiple stakeholders
- c. Clear communication among stakeholders
- d. Use of experts/consultants to shape vision

#### Enabling and impeding factors for cohesion

- a. Skilled/legitimate/stable leadership
- b. Political culture
- c. Policy context
- d. Salience of leadership

#### Sustainability and other remaining challenges for cohesion

- a. Legislation
- b. Common language across state/districts
- c. Staff dedicated to maintaining cohesion

### III. Elaborated List of Conditions That Support Principal Effectiveness

- 1. Principals have *autonomy* for
  - a. Determining the school calendar and daily schedule
  - b. Selecting curricula, textbooks, and other instructional materials
  - c. Determining content of PD programs for teachers
  - d. Evaluating teachers
  - e. Hiring new full-time teachers
  - f. Hiring new full-time school administrators (e.g., assistant principals)
  - g. Removing and disciplining teachers

- h. Matching teachers' skills with student learning needs
  - i. Setting and enforcing student discipline policy
  - j. Deciding how monetary resources will be spent
  - k. Freedom from overly burdensome district/state mandates and regulations
  - l. Freedom to select technical assistance and PD targeted to the leader's needs
2. Principals have support for *data use and monitoring*, including
    - a. Assessments aligned with state and district standards
    - b. Common or benchmark assessments administered on a frequent basis to monitor student progress toward standards
    - c. Timely feedback on student performance
    - d. Accurate, valid, and reliable data for making decisions about individual students
    - e. Multiple performance measures to assess student learning
    - f. Training on how to access and analyze data for school improvement
    - g. Strategies and opportunities to engage teachers, parents, and other stakeholders in assessing progress
  3. District, state, and/or other fiscal administrator manages *resources* such that
    - a. Resources are targeted toward closing the achievement gap (i.e., more resources for low-performing schools)
    - b. Resources are allocated to proven/effective or research-based programs
    - c. Resource allocations are based on school and student needs
    - d. Additional resources/incentives for hard-to-staff schools, hard-to-staff subject areas (may require state or union approval)
    - e. Incentives (such as differential teacher compensation) provided for improved student outcomes
    - f. Incentives (such as licensure reciprocity and/or pension portability) provided to assure supply to meet demand for high-quality teachers and leaders
  4. District (or other administrative entity) *curriculum and instruction policies* that provide
    - a. Instructional programs that help students meet standards
    - b. Research-based curricula aligned with state and district standards
    - c. Sufficient resources (materials, time, and staff) to implement programs
    - d. Sufficient PD and technical assistance to implement programs
    - e. Interventions, strategies, and training for differentiated instruction
    - f. Principals' ability to access technical assistance from district staff and/or intermediary organizations regarding curriculum issues

5. District (or other administrative entity) *policies for low-performing schools and students* that provide
  - a. Availability of effective, research-based interventions
  - b. Additional resources for high-need schools
  - c. Outside support and assistance from district or state support teams/mentors/coaches or intermediary organizations to build staff capacity and implement plans
  
6. District (or other administrative entity) *personnel policies* that provide
  - a. An effective and efficient recruitment and hiring process to attract high-quality teachers and leaders
  - b. Targeted, timely, high-quality PD that meets the needs of individuals and schools
  - c. Adequate time for teacher PD
  - d. Support for new teachers (coaches, mentors, master teachers)
  - e. Opportunity and time to form professional learning communities
  - f. A succession plan for school leaders
  - g. A fair, evidence-based process for teacher or leader dismissal
  - h. Principals' ability to access technical assistance from district staff and/or intermediary organizations regarding staff selection, PD, and evaluation issues
  
7. Governance *policies and structures* that
  - a. Support the district vision and goals
  - b. Clearly define roles and responsibilities of governing entities and prevent district and school governing boards from interfering with district and school leader autonomy
  - c. Encourage the school board and teachers' union to focus on school improvement
  - d. Coordinate governing entities to assure role alignment and mutual accountability
  - e. Encourage stakeholder and parent engagement in district and school policy, practice, and improvement decisions
  - f. Encourage distributed leadership throughout the district
  
8. *School context and culture* [principals should be able to influence school culture in the long term, but we anticipate that school context and culture will influence whether and how principals enact effective leadership practices in the short term]
  - a. Collaborative work across a school
  - b. Joint responsibility for student success

- c. A well-developed process for ongoing schoolwide improvement and planning
- d. Teachers open to change
- e. Distributed leadership throughout the school
- f. Strong parent and community engagement
- g. Probably other conditions

#### **IV. Principals Exhibiting Behaviors and Values of Effective School Leaders**

1. Development and implementation of strategic goals and school improvement efforts
  - a. Building a common vision
  - b. School improvement efforts
2. Supporting the instruction of students
  - a. Ensuring a supportive learning environment
  - b. Motivating students
  - c. Monitoring classroom instruction
  - d. Engaging with teachers outside of the classroom
3. Promoting the development and leadership of the school's teachers and staff
  - a. Promoting staff PD
  - b. Motivating staff
  - c. Developing leadership teams

#### **V. State Role**

1. Shaping state universities/educational leadership programming
2. Setting policies that affect how prospective principals are recruited, selected, trained, and licensed
3. Shaping the local conditions within which principals lead schools
4. Allocating resources (funding, staff, new infrastructure) toward leadership development
5. Bringing attention to the issue of school leadership
6. Providing processes and structures that enable alignment/coherence
7. Monitoring and evaluating efforts to improve school leadership

## Principal Survey Technical Notes

---

### Survey Administration

As part of the effort to collect principals' perspectives on their conditions, time they spent on leadership practices, and whether they felt the time spent was appropriate, we administered an online survey from May through June 2008. Contact information for each school and principal was obtained from school district websites. We created principal lists that included the principal's name, principal's e-mail address, school name, school address, and phone number; we then sent the lists to the relevant school districts to verify their accuracy. The lists were used to administer the principal survey and conduct follow-up activities.

We staggered the launch of the survey to correspond with the end of the school year for each district—after state testing was completed, but prior to the last days of school. In some cases, we changed launch dates to accommodate requests made by district staff. One week prior to the launch of the survey, principals in all districts except one received an e-mail from a district representative encouraging them to complete the survey. Following the district e-mail, a RAND team member sent each principal an e-mail that described the survey and included a link to the survey website.

We administered four follow-up efforts to ensure that the principals filled out the survey. Those who failed to respond to the survey after the first e-mail received a reminder e-mail one week after the launch. Those who failed to respond two weeks after the launch received a second reminder e-mail and were mailed a hardcopy version, which they were asked to mail back to RAND, or they could follow the directions in an enclosed letter to connect to the survey's website. We then called all remaining nonresponders. Some districts where response rates were particularly low also received additional reminder e-mails.

In addition to this multistage process, we asked districts if they would allow us to administer the survey during professional retreats or principal meetings. Atlanta, Providence, and St. Louis agreed to do so, and this strategy was very helpful in raising our response rates. Nonresponders were not singled out at these events, and principals were reminded that the survey was voluntary. Many of our district contacts also agreed

to send further e-mails or memos to their principals to encourage them to complete the survey.

Before analyzing the survey data, we removed anomalies (such as duplicate responses, incorrectly assigned IDs, or errors in the data transfer from the online survey to the dataset downloaded from the website). We also dropped 20 respondents from the database who were assistant principals or other administrators who had completed the survey instead of the principal. A total of 598 responses remained after data cleaning was complete. Table C.1 displays the final response rates.

## Weights

Because of the relatively low overall response rate (39 percent) and the variation in response rates across districts, we assessed whether the final sample was representative of the population of principals in our districts, on the basis of the mean percentage of socioeconomically disadvantaged students; total enrollment; percentage of Hispanic students; percentage of African-American students; school-level math and reading proficiency rates; and the number of respondents who led a high school, middle school, or elementary school for the total school population over all districts and for the schools

**Table C.1**  
**Principal Survey Response Rates by District**

School District	Number of Survey Respondents	Total Number of Principals	Response Rate (%)
Appoquinimink, DE	8	11	73
Atlanta, GA	92	100	92
Boston, MA	33	150	22
Chicago, IL	105	617	17
Christina, DE	24	29	83
Clear Creek, IA	4	4	100
Davenport, IA	21	28	75
Eugene, OR	27	36	75
Fort Wayne, IN	33	55	60
Indian River, DE	12	13	92
Jefferson County, KY	58	151	38
Portland, OR	62	98	63
Providence, RI	30	47	64
Springfield, IL	20	33	61
Springfield, MA	14	44	32
St. Louis, MO	44	88	50
Waterloo, IA	11	20	55
Total	598	1,524	39

of our sample of principals. We found differences between the population and the sample in a number of important categories (Table C.2). Our responding principals tended to be from schools with higher socioeconomic status (65 percent economically disadvantaged in the sample versus 71 percent in the population), lower enrollment (584 versus 635 mean total enrollment), and higher achievement (63 percent versus 57 percent proficient or better in reading and 61 percent versus 57 percent proficient or better in math). In addition, enrollment of Hispanic and African-American students was lower in the schools of our responding principals than in the population.

We then ran a logistic regression in which the dependent variable was response (1 for response, 0 for nonresponse) and the independent variables were the school socioeconomic, demographic, and achievement characteristics described above and indicators for school level. We also accounted for school district variation in response and included indicators for the districts. We used the results of the logistic regression to generate predicted values of response and created weights for each case based on the inverse of these predicted values. The goal of this weighting was to up-weight principals in the sample who resemble the nonresponding principals so that the sample more closely resembles the population. Principals who were overrepresented, based on the characteristics above, were concomitantly down-weighted relative to the underrepresented principals.

We generated three sets of nonresponse weights, which we used in the analyses. One set of weights was for the entire sample of principals, one set was for principals in the CLS states, and one set was for principals in the non-CLS states. In our analyses of all the principal responses, we used the entire-sample nonresponse weights, because our population of interest was principals across all the states. For the separate analyses of the CLS and non-CLS states, because our populations of interest were restricted to those states, we used the nonresponse weights generated for only them.

**Table C.2**  
**Differences in School Characteristics Between the Population and Sample of Responding Principals**

Variable	Population Mean (total schools in all districts)	Sample Mean (schools of responding principals)
Total enrollment	635	584
Enrollment of economically disadvantaged (%)	71	65
Hispanic enrollment (%)	23	18
African-American enrollment (%)	47	43
Students proficient in reading (%)	57	63
Students proficient in mathematics (%)	57	61

NOTE: Percentages are rounded; differences are significant at the 0.05 level.

The use of a small selection of variables in constructing the weights may have affected the weights' precision. However, it enabled us to minimize the number of cases we would lose because of missing information. It is important to note that other variables might account for nonresponse bias in our data; principal practices are not necessarily directly linked to a school's demographic and achievement characteristics. To test the accuracy of our weights, we compared the means of the school characteristics for the weighted sample and the population of principals in our study districts. We included comparisons on the following school characteristics which we did not use as part of the weighting scheme:

- Title I–eligible school
- Schoolwide Title I eligibility
- 2007 reading proficiency for African-American students
- 2007 reading proficiency for Hispanic students
- 2007 reading proficiency for economically disadvantaged students
- 2007 math proficiency for African-American students
- 2007 math proficiency for Hispanic students
- 2007 math proficiency for economically disadvantaged students.

We found that after nonresponse weighting, the means of the school characteristics of the principals for the entire sample closely resembled those of the population of principals across all states.<sup>1</sup> The one variable that does not perform as well is Hispanic proficiency in both math and reading. Those variables may have more missing observations than the others, and it is therefore difficult to balance the sample to the population on them.

In general, using weights in our analyses causes standard errors to increase. This is likely to result in underestimating the significance of the results. However, the estimates yield less-biased results than they would have if we had chosen not to construct and use the weights.

---

<sup>1</sup> We found this to be the case for the means of the population of principals in only the CLS states. We did not find this to be the case for the nonresponse weights generated for only the non-CLS principals. This is likely because the population of non-CLS principals is smaller than that of CLS principals. The precision of the covariates to create nonresponse weights for that sample only is likely to be less than that of the entire principal sample or just the CLS states.

## Principal End-of-Day-Log Technical Notes

---

### Log Development

The goal of the end-of-day logs was to gather daily perspectives of principals on the amount of time they were able to spend on leadership practices focused on developing and advancing students' learning.

The end-of-day logs were divided into three sections. The first asked principals to indicate the time they spent on a number of activities typically performed during a working day. These included building operations, financial support for the school, community or parent relations, school district functions, student affairs, personnel issues, planning and setting goals, professional growth, and instructional leadership. The second section asked principals about particular conditions that enabled or hindered their engagement in five instructional leadership practices: school improvement planning or developing goals; planning and/or leading teachers' PD; supervising, counseling, and evaluating staff; monitoring, observing, and/or providing feedback on instruction; and analyzing student data or student work. The third section asked principals to provide an example from that day in which a condition either greatly hindered or greatly increased their ability to advance student learning.

For the purposes of this study, we analyzed the response to the third section and created an Excel spreadsheet in which responses were categorized into various groups of practices and then by enabling and inhibiting conditions.

### Sample Selection and Administration

Principals we targeted for the end-of-day logs were those whom the district designated as relatively high-performing. Our rationale was similar to the one used for our principal interviews: If high-performing principals noted that particular conditions were impeding or enabling their work, other principals were likely to be facing similar obstacles or support structures. Like the sample of interviewed principals, the principals chosen to fill out the end-of-day logs may pose selection-bias issues. These data do not

allow us to examine conditions or leadership practices of struggling principals, which may differ in type or scope from those encountered by higher-performing principals.

End-of-day log surveys were administered daily to each of the targeted principals for one week in October 2008 and one week in November 2008. One hundred sixty-seven principals completed at least one, and as many as 10, logs during this period. Table D.1 shows the final response rates after the data were cleaned.

**Table D.1**  
**Response Rates for End-of-Day Logs**

School District	Number of Responses	Total Number Targeted Across 10 Days	Response Rate (%)
Appoquinimink, DE	48	120	40.00
Atlanta, GA	134	150	89.33
Boston, MA	157	260	60.38
Chicago, IL	61	250	24.40
Christina, DE	76	240	31.67
Clear Creek, IA	33	40	82.50
Davenport, IA	89	190	46.84
Eugene, OR	83	150	55.33
Ft. Wayne, IN	113	150	75.33
Indian River, DE	55	140	39.29
Jefferson County, KY	105	180	58.33
Portland, OR	80	150	53.33
Providence, RI	83	150	55.33
Springfield, IL	88	160	55.00
Springfield, MA	103	160	64.38
St. Louis, MO	57	200	28.50
Waterloo, IA	31	200	15.50
Total	1,396	2,890	48.30

## Index Construction for the Analyses in Chapter Eight

---

The analyses in Chapter Eight assess the relationship between principals' reported conditions and time spent on instructional leadership practices and whether principals feel that the time is appropriate and sufficient. To conduct the analyses, we created indices for four of the eight analyzed conditions and all nine of the instructional leadership practices. The time-spent and perceptions-of-time-spent indices parallel each other: Each index of time spent is accompanied by an index constructed of items asking the principal's opinion on whether the time spent on a particular activity is appropriate and sufficient.

These indices capture broad categories of conditions and instructional leadership practices that the literature indicates are important determinants of effective school leadership. In this appendix, we describe how we constructed the indices.

Using information obtained in a review of the literature, we grouped survey items asking principals about the conditions they encountered in their daily working lives and the instructional leadership activities they practiced into broad categories. We then tested our theoretical grouping through confirmatory factor analysis and found that the groupings held together well.

Tables E.1 and E.2 present the broad categories of conditions, time spent, and perceptions about the appropriateness of time spent; the associated survey items; and the Cronbach alpha, a measure of the reliability of a newly formed variable. A Cronbach alpha of 0.8 is generally considered to be an indication that the newly constructed variable is robust. The alphas for the conditions indices range from 0.75 to 0.85. The time-spent indices range from 0.57 to 0.83. Those for perceptions of appropriateness of time spent range from 0.62 to 0.80. Although the alphas for the indices of instructional leadership practices are less robust than those for the conditions, we are confident of the theoretical underpinnings for combining these items. As a further check on the reliability of the index construction, we conducted regression analyses using both the instructional-leadership-practice indices and individual items as the dependent variables. In general, we found the findings with individual items (not shown) to be consistent with those of our analyses using the indices.

**Table E.1**  
**Indices for Conditions, Associated Items, Scale, and Alphas**

Index Variable	Associated Items	Scale	Alpha
Data (state and district)	<ul style="list-style-type: none"> <li>• Timely</li> <li>• Organized</li> <li>• Accurate and easily accessible</li> <li>• Accurate and reliable</li> <li>• Results are useful</li> </ul>	0 (strongly disagree) to 3 (strongly agree)	0.85
Resources	<ul style="list-style-type: none"> <li>• Resources to meet student academic needs</li> <li>• Resources to meet student social and emotional needs</li> <li>• Adequacy of facilities and transportation</li> <li>• Sufficient time and staff support</li> </ul>	0 (strongly disagree) to 3 (strongly agree)	0.75
Quality of district-provided evaluation and PD	<ul style="list-style-type: none"> <li>• Tools and training on data</li> <li>• Professional development for principals</li> <li>• Evaluations based on state leadership standards</li> <li>• Evaluations focused on instructional leadership</li> <li>• Evaluations use clear and transparent criteria</li> <li>• Access to technical assistance</li> </ul>	0 (not at all) to 3 (to a large extent)	0.87
Autonomy (authority)	<ul style="list-style-type: none"> <li>• Set achievement goals</li> <li>• Set daily schedule</li> <li>• Establish curriculum</li> <li>• Select textbooks</li> <li>• Budget</li> <li>• Hire teachers</li> <li>• Evaluate teachers</li> <li>• Remove teachers</li> <li>• Hire administrators</li> <li>• Remove administrators</li> </ul>	0 (no authority) to 3 (complete authority)	0.81

NOTE: Four of the conditions used in the analyses for Chapter Eight are items not listed in this table.

**Table E.2**  
**Indices for Instructional Leadership Practices, Associated Items, and Alphas**

Index Variable	Associated Items	Alpha
Building a common vision	<ul style="list-style-type: none"> <li>• Developing, implementing, and monitoring strategic goals</li> <li>• Assisting staff in developing a shared vision</li> <li>• Involving parents in supporting school strategic goals</li> </ul>	Time spent: 0.78 Appropriateness of time spent: 0.76
School improvement	<ul style="list-style-type: none"> <li>• Monitoring the phase-in of school improvement efforts</li> <li>• Using data to monitor school progress</li> <li>• Aligning human and fiscal resources to strategic priorities</li> </ul>	Time spent: 0.59 Appropriateness of time spent: 0.64
Creating a supportive learning environment for students	<ul style="list-style-type: none"> <li>• Establishing a safe and orderly environment</li> <li>• Minimize disruptions of instructional time</li> </ul>	Time spent: 0.57 Appropriateness of time spent: 0.62
Motivating students	<ul style="list-style-type: none"> <li>• Communicating high expectations to students</li> <li>• Providing incentives for students</li> <li>• Acknowledging students</li> </ul>	Time spent: 0.67 Appropriateness of time spent: 0.72
Monitoring classroom instruction	<ul style="list-style-type: none"> <li>• Organizing classroom walkthroughs</li> <li>• Collecting and examining student work</li> <li>• Reviewing and providing feedback on teacher lesson plans</li> </ul>	Time spent: 0.67 Appropriateness of time spent: 0.72
Engaging with teachers outside of the classroom to improve the instruction of students	<ul style="list-style-type: none"> <li>• Creating opportunities for staff collaboration</li> <li>• Holding teachers accountable for student academic progress</li> <li>• Setting up systems for teachers to examine student work in relation to grade-level expectations and/or state standards</li> <li>• Informing teachers of the school's performance on state and district assessments</li> <li>• Guiding the development and evaluation of curriculum that is aligned with local and state standards and assessments</li> </ul>	Time spent: 0.73 Appropriateness of time spent: 0.74
Promoting staff PD	<ul style="list-style-type: none"> <li>• Working with individual staff members to evaluate professional needs and capacities</li> <li>• Arranging high-quality PD for staff</li> <li>• Helping staff members find resources to accomplish their professional goals</li> <li>• Working with staff to use achievement data for decisionmaking</li> </ul>	Time spent: 0.66 Appropriateness of time spent: 0.71
Stimulating and motivating staff	<ul style="list-style-type: none"> <li>• Stimulating staff to consider how they could carry out their work more effectively</li> <li>• Communicating high expectations for staff</li> <li>• Acknowledging exceptional staff effort and/or performance</li> </ul>	Time spent: 0.64 Appropriateness of time spent: 0.68
Fostering leadership among staff	<ul style="list-style-type: none"> <li>• Establishing and developing school leadership teams</li> <li>• Developing leadership capacity of staff</li> <li>• Encouraging individual, small-team, and whole-school problem-solving</li> </ul>	Time spent: 0.83 Appropriateness of time spent: 0.80

NOTE: For all indices, the time-spent index was coded from 0 (no time or some time) to 1 (a great deal of time); the feelings-about-time-spent index was coded from 0 (not sufficient or excessive) to 1 (appropriate and sufficient).



## Methodology and Elaborated Results for Analyses in Chapter Eight

---

In this appendix we describe the data sources used for the analyses presented in Chapter Eight. We detail the methodology used to test the mean differences between principals in CLS and non-CLS sites and the ordinary least squares (OLS) regression analyses. This appendix also presents the results from the mean-difference tests and the regression analyses.

### Data Sources

We compiled school-level socioeconomic, demographic, and achievement information from multiple sources. We used these variables to estimate response weights and as controls for school-level factors in our examination of support for the CLS hypothesis. From the NCES Common Core of Data (CCD) website we downloaded school geographic information (such as address and contact information), school level and grade span, measures of economic disadvantage, school type (such as traditional public, charter, or public magnet), and total enrollment, as well as the NCES unique school identifier.

We downloaded additional socioeconomic, demographic, and achievement variables on each school from SchoolDataDirect (SDD), an online source of education data that is sponsored by the non-profit CCSSO and administered by Standard and Poor's. SDD maintains a host of education data from federal, state, and district sources.

Table F.1 summarizes the variables we utilized in our analyses, with a brief description of each, the academic year to which it pertains, and its source. We used these data as control variables in our logistic regression to generate the sample non-response weights. We also used them as controls in our OLS regressions examining the impact of principals' reported conditions on time spent and their feelings about time spent. We used the most recent year for which data were both available and complete.

**Table F.1**  
**Analysis Data Sources**

Variable	Description	Academic Year	Primary Source	Original Source for SDD Data
School level	Primary, middle, high, or other	2005–2006	NCES CCD	NA
Total student enrollment	Total number of students enrolled in school	2005–2006	NCES CCD	NA
Enrollment of economically disadvantaged students	Percentage of students classified as economically disadvantaged	2006–2007	SDD	NCES and state departments of education
Math proficiency	SDD-calculated percentage of students meeting or exceeding state proficiency standards in math, using state-reported data on number of students meeting proficient or above and number of students who took the test	2007–2008 or 2006–2007 where 2007–2008 was not available	SDD	State departments of education
Reading proficiency	SDD-calculated percentage of students meeting or exceeding state proficiency standards in reading, using state-reported data on number of students meeting proficient or above and number of students who took the test	2007–2008 or 2006–2007 where 2007–2008 was not available	SDD	State departments of education
Hispanic enrollment	Percentage of Hispanic students in the school	2006–2007	SDD	NCES and state departments of education
African-American enrollment	Percentage of African-American students in the school	2006–2007	SDD	NCES and state departments of education

## Means Tests

In this section, we describe in detail the methodology we used to examine differences between reports from principals in CLS and non-CLS sites and present the means for the indices described in Appendix E and for each survey item used to construct the indices.

### Calculating Means and Standard Errors of Outcome Indices and Survey Items for CLS and Non-CLS Principals

The means and standard errors of CLS and non-CLS principal reports on the survey items and the composite indices were calculated while factoring in the complex survey design and our need to adjust for survey nonresponse. To examine the means and standard errors of responses for principals in CLS sites and non-CLS sites, we used the nonresponse weights calculated using only the population of CLS principals and only the population of non-CLS sites. Because we were examining what principals in CLS and non-CLS sites reported separately, it is appropriate to consider them as separate

populations. In this case, we considered the primary sampling unit to be the principal and the strata to be the school district. The same principle applied when we examined the means and standard errors of the non-CLS principal population. We used non-response weights specifically developed for CLS principals and non-CLS principals (see Appendix D).

### **Examining Whether Principal-Reported Outcomes Differ Between CLS and Non-CLS States**

In addition to examining the means and standard errors of CLS and non-CLS principal survey responses as separate populations of interest, we examined whether their responses were significantly different. However, we did not attribute any significant differences to the cohesion of the sites. A number of district characteristics could be contributing to any observed differences.

There are a number of significant limitations to conducting this kind of analysis. First, we grouped the states and their associated districts into CLS and non-CLS designations, and the resulting sample size was only 10 states. This may not have provided enough statistical power to estimate whether there are statistically significant differences between principal responses across these two groups. Furthermore, what we observe to be differences between CLS and non-CLS states on these principal responses may be the result not of the CLS designation, but rather of a chance grouping of states into the two groups.

To test for this possibility, we conducted a permutation test consisting of three steps. First, a statistical program randomly assigned six states to the CLS category and four states to the non-CLS category. Second, the program tested whether the differences between the principals' mean responses in the CLS and non-CLS categories were statistically significant. The random assignments and means testing occurred more than 200 times. Third, the program calculated the proportion of times the absolute value of the test statistic for the difference between CLS and non-CLS sites, as originally grouped by The Wallace Foundation, was greater than the test statistics of differences from the randomly assigned groupings. This proportion represents the p-value, and we consider 0.05 to be a statistically significant result. That is, the difference between CLS and non-CLS states is not the result of a chance grouping of the principals into these two categories. It is important to note that we account for the state as the primary sampling unit in this case, because the analysis of differences by CLS grouping is a state-level analysis.

Tables F.2 through F.27 document the differences in principal-reported conditions, time spent, and perceptions of the appropriateness of time spent between CLS and non-CLS sites. We report the mean response for principals in the two types of sites, the difference between the means, and the p-value determined by the permutation test.

**Table F.2**  
**Difference Between Principals' Responses in CLS and Non-CLS Sites on Data**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Data Index	1.816 (0.032)	1.887 (0.036)	-0.071	0.714
<i>Survey item: To what extent do you agree with the following statements about state and district student assessment data?</i>				
State data are available in a timely manner	1.05 (0.05)	1.58 (0.06)	-0.535	0.433
State data are organized and easily accessible	1.83 (0.05)	1.85 (0.04)	-0.017	0.928
State data are accurate and reliable	1.83 (0.04)	1.88 (0.04)	-0.049	0.995
State data are useful for helping staff improve teaching and learning	2.05 (0.05)	1.98 (0.05)	0.066	0.680
District data are available in a timely manner	1.84 (0.05)	1.83 (0.06)	0.012	0.961
District data are organized and easily accessible	1.93 (0.04)	1.89 (0.05)	0.041	0.861
District data are accurate and reliable	1.89 (0.04)	1.93 (0.05)	-0.041	0.819
District data are useful for helping staff improve teaching and learning	2.07 (0.04)	2.12 (0.05)	-0.050	0.738

NOTES: N = 340 CLS principals, 177 non-CLS principals.

Scale: 0 = strongly disagree; 1 = disagree; 2 = agree; 3 = strongly agree. Standard error shown in parentheses.

**Table F.3**  
**Difference Between Principals' Responses in CLS and Non-CLS Sites on Resources**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Resources Index	1.414 (0.039)	1.249 (0.042)	0.165	0.338
<i>Survey item: To what extent do you agree with the following statements about resources?</i>				
I have access to sufficient resources to meet the <i>academic</i> needs of my school's students	1.2 (0.05)	1.11 (0.05)	0.116	0.628
I have access to sufficient resources to meet the <i>social and emotional</i> needs of my school's students	0.9 (0.05)	0.90 (0.06)	0.064	0.761
This school has adequate facilities and/or transportation	1.9 (0.06)	1.71 (0.05)	0.252	0.109
I have the time and staff support to accomplish all that is required to effectively lead this school	1.5 (0.05)	1.23 (0.05)	0.273	0.090

NOTES: N = 338 CLS principals, 177 non-CLS principals.

Scale: 0 = strongly disagree; 1 = disagree; 2 = agree; 3 = strongly agree.

**Table F.4**  
**Difference Between Principals' Responses in CLS and Non-CLS Sites**  
**on Aligned Governance**

Aligned-Governance Item	CLS Mean	Non-CLS Mean	Mean Difference	p-value
<i>Survey item: To what extent do you agree with the following statements about your district's and school's governance structure?</i>				
Roles and responsibilities of governing entities (e.g., district offices, district board, superintendent's office) are aligned and coordinated	1.956 (0.060)	1.895 (0.064)	0.906	0.728

NOTES: N = 328 CLS principals, 177 non-CLS principals.

Scale: 0 = not at all; 1 = to a small extent; 2 = to a moderate extent; 3 = to a large extent.

**Table F.5**  
**Difference Between Principals' Responses in CLS and Non-CLS Sites**  
**on Conflicting Policies**

Conflicting-Policies Item	CLS Mean	Non-CLS Mean	Mean Difference	p-value
<i>Survey item: To what extent does the district or charter management agency provide the following?</i>				
Policies and programs that are burdensome, conflicting, or fragmented	1.505 (0.057)	1.419 (0.062)	0.085	0.961

NOTES: N = 332 CLS principals, 175 non-CLS principals.

Scale: 0 = not at all; 1 = to a small extent; 2 = to a moderate extent; 3 = to a large extent.

**Table F.6**  
**Difference Between Principals' Responses in CLS and Non-CLS Sites**  
**on Quality of District Tools, PD, and Evaluation**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Quality of District Tools, PD, and Evaluation Index	1.883 (0.045)	1.816 (0.048)	0.066	0.723
<i>Survey item: To what extent does the district or charter management agency provide the following?</i>				
Tools and training on using data to inform instructional planning	2.2 (0.05)	2.19 (0.05)	0.013	0.961
High-quality PD opportunities for principals	1.7 (0.05)	1.99 (0.05)	-0.217	0.314
Performance evaluations that are based on state leadership standards	1.9 (0.06)	1.71 (0.07)	0.196	0.476
Performance evaluations that focus on principals' active involvement in instruction	1.9 (0.06)	1.75 (0.06)	0.101	0.690
Performance evaluations that use clear and transparent criteria	1.8 (0.06)	1.69 (0.06)	0.142	0.623
Access to technical assistance in guiding instructional improvements (e.g., coaches, mentors)	1.7 (0.06)	1.54 (0.06)	0.150	0.409

NOTES: N = 336 CLS principals, 177 non-CLS principals.

Scale: 0 = not at all; 1 = to a small extent; 2 = to a moderate extent; 3 = to a large extent.

**Table F.7**  
**Difference Between Principals' Responses in CLS and Non-CLS Sites**  
**on District-Provision-of-Assistance-with-Administration Item**

District-Provision-of-Assistance-with-Administration Item	CLS Mean	Non-CLS Mean	Mean Difference	p-value
<i>Survey item: To what extent does the district or charter management agency provide the following?</i>				
Direct assistance with administrative duties so principals can focus on improving instruction (e.g., a school administrative manager or SAM)	0.886 (0.064)	0.763 (0.072)	0.122	0.619

NOTES: N = 336 CLS principals, 175 non-CLS principals.

Scale: 0 = not at all; 1 = to a small extent; 2 = to a moderate extent; 3 = to a large extent.

**Table F.8**  
**Difference Between Principals' Responses in CLS and Non-CLS Sites**  
**on Sufficient-and-Qualified-Leadership-Staff Item**

Sufficient-and-Qualified-Leadership-Staff Item	CLS Mean	Non-CLS Mean	Mean Difference	p-value
<i>Survey item: To what extent does the district or charter management agency provide the following?</i>				
Sufficient and qualified leadership staff (e.g., assistant principals, school-based coaches)	1.728 (0.060)	1.466 (0.072)	0.261	0.238

NOTES: N = 333 CLS principals, 175 non-CLS principals.

Scale: 0 = not at all; 1 = to a small extent; 2 = to a moderate extent; 3 = to a large extent.

**Table F.9**  
**Difference Between Principals' Responses in CLS and Non-CLS Sites**  
**on Autonomy**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Autonomy Index	1.703 (0.029)	1.252 (0.035)	0.451	0.047

*Survey item: How much decisionmaking authority do you have in the following activities at this school?*

Setting achievement goals for students	1.93 (0.05)	1.90 (0.06)	0.030	0.780
Determining the daily schedule	2.16 (0.04)	2.14 (0.05)	0.021	0.738
Establishing curriculum	1.45 (0.05)	0.86 (0.05)	0.580	0.038
Selecting textbooks and other instructional materials	1.70 (0.05)	0.90 (0.04)	0.798	0.038
Deciding how the school budget will be spent	1.88 (0.05)	1.86 (0.05)	0.014	0.885
Hiring new full-time teachers	2.18 (0.04)	1.43 (0.06)	0.754	0.161
Determining how to evaluate teachers	1.18 (0.06)	0.96 (0.07)	0.219	0.457
Removing and disciplining teachers	1.43 (0.04)	1.00 (0.05)	0.428	0.014
Hiring new full-time administrators (e.g., assistant principal)	1.86 (0.05)	0.74 (0.06)	1.121	0.133
Removing and disciplining school administrators	1.23 (0.06)	0.61 (0.05)	0.613	0.080

NOTES: N = 337 CLS principals, 179 non-CLS principals.

Scale: 0 = none; 1 = some; 2 = a lot; 3 = complete.

**Table F.10**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites**  
**on Time Spent Building a Common Vision**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Time Spent Building a Common Vision Index	0.478 (0.028)	0.454 (0.031)	0.024	0.900
<i>Survey item: How much time and effort did you spend on the following?</i>				
Developing, implementing, and monitoring strategic goals for this school	0.55 (0.03)	0.54 (0.04)	0.009	0.909
Assisting staff in developing a shared vision of our mission and goals	0.52 (0.03)	0.51 (0.04)	0.116	0.923
Involving parents in supporting the strategic goals of this school	0.34 (0.03)	0.31 (0.04)	0.038	0.833

NOTES: N = 326 CLS principals, 176 non-CLS principals.  
 Scale: 0 = no time or some time and effort; 1 = a great deal of time and effort.

**Table F.11**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites**  
**on Appropriateness of Time Spent Building a Common Vision**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Appropriateness of Time Spent Building a Common Vision Index	0.683 (0.028)	0.630 (0.029)	0.052	0.495
<i>Survey item: How do you feel about the time and effort you spend on the following?</i>				
Developing, implementing, and monitoring strategic goals for this school	0.74 (0.03)	0.68 (0.04)	0.062	0.485
Assisting staff in developing a shared vision of our mission and goals	0.73 (0.03)	0.67 (0.04)	0.060	0.376
Involving parents in supporting the strategic goals of this school	0.57 (0.03)	0.53 (0.04)	0.033	0.695

NOTES: N = 326 CLS principals, 176 non-CLS principals.  
 Scale: 0 = insufficient or excessive for this school; 1 = appropriate and sufficient.

**Table F.12**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites on**  
**Time Spent on School Improvement Efforts**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
School Improvement Efforts Index	0.644 (0.024)	0.491 (0.028)	0.153	0.061
<i>Survey item: How much time and effort did you spend on the following?</i>				
Aligning human and fiscal resources to strategic priorities	0.68 (0.03)	0.49 (0.03)	0.196	0.033
Monitoring the phase-in of school improvement efforts and their impact on student learning	0.56 (0.03)	0.39 (0.03)	0.172	0.194
Using data to monitor school progress, identify problems, and propose solutions	0.67 (0.03)	0.58 (0.03)	0.085	0.276

NOTES: N = 326 CLS principals, 175 non-CLS principals.

Scale: 0 = no time or some time and effort; 1 = a great deal of time and effort.

**Table F.13**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites on**  
**Appropriateness of Time Spent on School Improvement Efforts**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Appropriateness of Time Spent on School Improvement Efforts Index	0.773 (0.021)	0.677 (0.027)	0.095	0.023
<i>Survey item: How do you feel about the time and effort you spend on the following?</i>				
Aligning human and fiscal resources to strategic priorities	0.83* (0.02)	0.73 (0.03)	0.094	0.038
Monitoring the phase-in of school improvement efforts and their impact on student learning	0.75 (0.02)	0.66 (0.03)	0.095	0.057
Using data to monitor school progress, identify problems, and propose solutions	0.73 (0.03)	0.64 (0.03)	0.091	0.085

NOTES: N = 326 CLS principals, 175 non-CLS principals.

Scale: 0 = insufficient or excessive for this school; 1 = appropriate and sufficient.

**Table F.14**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites on Time Spent Creating a Supportive Learning Environment for Students**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Supportive Learning Environment Index	0.755 (0.537)	0.690 (0.029)	0.064	0.452
<i>Survey item: How much time and effort did you spend on the following?</i>				
Ensuring that disruptions of instructional time are minimized	0.73 (0.02)	0.62 (0.03)	0.105	0.328
Establishing a safe and orderly environment	0.77 (0.02)	0.75 (0.03)	0.024	0.652

NOTES: N = 327 CLS principals, 175 non-CLS principals.

Scale: 0 = no time or some time and effort; 1 = a great deal of time and effort.

**Table F.15**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of Time Spent Creating a Supportive Learning Environment for Students**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Supportive Learning Environment Index	0.773 (0.021)	0.677 (0.027)	0.095	0.023
<i>Survey item: How do you feel about the time and effort you spend on the following?</i>				
Ensuring that disruptions of instructional time are minimized	0.75 (0.03)	0.78 (0.03)	-0.027	0.447
Establishing a safe and orderly environment	0.79 (0.02)	0.76 (0.03)	0.034	0.361

NOTES: N = 327 CLS principals, 175 non-CLS principals.

Scale: 0 = insufficient or excessive for this school; 1 = appropriate and sufficient.

**Table F.16**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites on Time Spent Motivating Students**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Motivating Students Index	0.583 (0.025)	0.490 (0.028)	0.092	0.371
<i>Survey item: How much time and effort did you spend on the following?</i>				
Acknowledging students for academic effort and/or achievement	0.56 (0.03)	0.47 (0.03)	0.093	0.338
Communicating high expectations to students	0.77 (0.02)	0.49 (0.03)	0.085	0.071
Providing incentives for students to improve their learning	0.41 (0.03)	0.31 (0.03)	0.097	0.671

NOTES: N = 327 CLS principals, 175 non-CLS principals.

Scale: 0 = no time or some time and effort; 1 = a great deal of time and effort.

**Table F.17**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of Time Spent Motivating Students**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Motivating Students Index	0.761 (0.023)	0.658 (0.031)	0.102	0.023
<i>Survey item: How do you feel about the time and effort you spend on the following?</i>				
Acknowledging students for academic effort and/or achievement	0.78 (0.02)	0.66 (0.03)	0.118	0.047
Communicating high expectations to students	0.77 (0.02)	0.68 (0.03)	0.094	0.038
Providing incentives for students to improve their learning	0.72 (0.03)	0.62 (0.03)	0.102	0.071

NOTES: N = 327 CLS principals, 175 non-CLS principals.

Scale: 0 = insufficient or excessive for this school; 1 = appropriate and sufficient.

**Table F.18**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites on Time Spent Monitoring Classroom Instruction**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Monitoring Classroom Instruction Index	0.305 (0.023)	0.234 (0.026)	0.071	0.328
<i>Survey item: How much time and effort did you spend on the following?</i>				
Collecting and examining student work	0.28 (0.03)	0.24 (0.03)	0.032	0.609
Organizing walkthroughs or classroom visits in order to gather information	0.40 (0.03)	0.27 (0.03)	0.130	0.285
Reviewing and providing feedback on teacher lesson plans	0.22 (0.02)	0.18 (0.03)	0.047	0.542

NOTES: N = 325 CLS principals, 176 non-CLS principals.  
 Scale: 0 = no time or some time and effort; 1 = a great deal of time and effort.

**Table F.19**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of Time Spent Monitoring Classroom Instruction**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Monitoring Classroom Instruction Index	0.589 (0.027)	0.446 (0.030)	0.143	0.052
<i>Survey item: How do you feel about the time and effort you spend on the following?</i>				
Collecting and examining student work	0.54 (0.03)	0.44 (0.03)	0.097	0.285
Organizing walkthroughs or classroom visits in order to gather information	0.64 (0.03)	0.45 (0.03)	0.189	0.066
Reviewing and providing feedback on teacher lesson plans	0.57 (0.03)	0.43 (0.03)	0.143	0.119

NOTES: N = 325 CLS principals, 176 non-CLS principals.  
 Scale: 0 = insufficient or excessive for this school; 1 = appropriate and sufficient.

**Table F.20**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites on Time Spent Engaging Teachers Outside of the Classroom**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Engaging with Teachers Outside of the Classroom to Improve the Instruction of Students Index	0.77 (0.02)	0.71 (0.03)	0.062	0.076
<i>Survey item: How much time and effort did you spend on the following?</i>				
Creating opportunities for staff collaboration with a focus on improving student achievement	0.57 (0.03)	0.37 (0.03)	0.198	0.109
Holding teachers accountable for student academic progress	0.63 (0.03)	0.48 (0.03)	0.144	0.085
Setting up systems for teachers to examine student work in relation to grade-level expectations and/or state standards	0.51 (0.03)	0.39 (0.03)	0.117	0.161
Guiding the development and evaluation of curriculum that is aligned with local and state standards and assessments	0.43 (0.03)	0.26 (0.03)	0.167	0.109

NOTES: N = 327 CLS principals, 176 non-CLS principals.

Scale: 0 = no time or some time and effort; 1 = a great deal of time and effort.

**Table F.21**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of Time Spent Engaging Teachers Outside of the Classroom**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Engaging with Teachers Outside of the Classroom to Improve the Instruction of Students Index	0.78 (0.02)	0.66 (0.03)	0.116	0.023
<i>Survey item: How much time and effort did you spend on the following?</i>				
Creating opportunities for staff collaboration with a focus on improving student achievement	0.67 (0.03)	0.53 (0.03)	0.134	0.004
Holding teachers accountable for student academic progress	0.83 (0.02)	0.75 (0.03)	0.072	0.138
Setting up systems for teachers to examine student work in relation to grade-level expectations and/or state standards	0.69 (0.03)	0.61 (0.03)	0.077	0.03
Guiding the development and evaluation of curriculum that is aligned with local and state standards and assessments	0.75 (0.02)	0.67 (0.03)	0.076	0.185

NOTES: N = 327 CLS principals, 176 non-CLS principals.

Scale: 0 = insufficient or excessive for this school; 1 = appropriate and sufficient.

**Table F.22**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites on Time Spent Promoting Staff PD**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Promoting Staff PD Index	0.465 (0.025)	0.395 (0.026)	0.070	0.290
<i>Survey item: How much time and effort did you spend on the following?</i>				
Working with teachers and other staff to help them use achievement data from the state, district, or school level for their decisionmaking	0.60 (0.03)	0.48 (0.03)	0.118	0.271
Arranging high-quality PD experiences for teachers and staff in areas known to improve student achievement	0.57 (0.03)	0.46 (0.03)	0.115	0.100
Helping staff members find resources to accomplish their professional goals	0.33 (0.03)	0.28 (0.03)	0.047	0.657
Working with individual staff members to evaluate their particular professional needs and capacities	0.33 (0.03)	0.35 (0.03)	-0.020	0.752

NOTES: N = 326 CLS principals, 176 non-CLS principals.

Scale: 0 = no time or some time and effort; 1 = a great deal of time and effort.

**Table F.23**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of Time Spent Promoting Staff PD**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Promoting Staff PD Index	0.709 (0.025)	0.622 (0.026)	0.087	0.038
<i>Survey item: How do you feel about the time and effort you spend on the following?</i>				
Working with teachers and other staff to help them use achievement data from the state, district, or school level for their decisionmaking	0.69 (0.03)	0.59 (0.03)	0.093	0.104
Arranging high-quality PD experiences for teachers and staff in areas known to improve student achievement	0.75 (0.03)	0.65 (0.03)	0.099	0.047
Helping staff members find resources to accomplish their professional goals	0.72 (0.03)	0.67 (0.03)	0.051	0.166
Working with individual staff members to evaluate their particular professional needs and capacities	0.68 (0.03)	0.57 (0.03)	0.111	0.042

NOTES: N = 326 CLS principals, 176 non-CLS principals.

Scale: 0 = insufficient or excessive for this school; 1 = appropriate and sufficient.

**Table F.24**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites on Time Spent Motivating Staff**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Motivating Staff Index	0.448 (0.026)	0.351 (0.026)	0.097	0.147
<i>Survey item: How much time and effort did you spend on the following?</i>				
Acknowledging exceptional staff effort and/or performance	0.35 (0.03)	0.23 (0.03)	0.124	0.190
Communicating high expectations for staff	0.64 (0.03)	0.53 (0.03)	0.109	0.247
Stimulating staff to consider how they could carry out their work more effectively	0.34 (0.03)	0.28 (0.03)	0.053	0.414

NOTES: N = 325 CLS principals, 176 non-CLS principals.

Scale: 0 = no time or some time and effort; 1 = a great deal of time and effort.

**Table F.25**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of Time Spent Motivating Staff**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Motivating Staff Index	0.724 (0.023)	0.617 (0.028)	0.107	0.000
<i>Survey item: How do you feel about the time and effort you spend on the following?</i>				
Acknowledging exceptional staff effort and/or performance	0.69 (0.03)	0.56 (0.03)	0.130	0.028
Communicating high expectations for staff	0.77 (0.02)	0.70 (0.03)	0.068	0.142
Stimulating staff to consider how they could carry out their work more effectively	0.70* (0.03)	0.57 (0.03)	0.127	0.019

NOTES: N = 325 CLS principals, 176 non-CLS principals.

Scale: 0 = insufficient or excessive for this school; 1 = appropriate and sufficient.

**Table F.26**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites**  
**on Time Spent Fostering Leadership Among Staff**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Fostering Leadership Among Staff Index	0.555 (0.030)	0.413 (0.033)	0.142	0.004
<i>Survey item: How much time and effort did you spend on the following?</i>				
Developing leadership capacity of staff	0.50 (0.03)	0.36 (0.03)	0.147	0.028
Encouraging individual, small-team, and whole-school problem-solving	0.61 (0.03)	0.49 (0.03)	0.122	0.004
Establishing and developing school leadership teams	0.53 (0.03)	0.38 (0.03)	0.149	0.004

NOTES: N = 325 CLS principals, 176 non-CLS principals.  
 Scale: 0 = no time or some time and effort; 1 = a great deal of time and effort.

**Table F.27**  
**Difference Between Principals' Reports in CLS and Non-CLS Sites on Appropriateness of**  
**Time Spent Fostering Leadership Among Staff**

	CLS Mean	Non-CLS Mean	Mean Difference	p-value
Fostering Leadership Among Staff Index	0.793 (0.022)	0.717 (0.029)	0.076	0.276
<i>Survey item: How do you feel about the time and effort you spend on the following?</i>				
Developing leadership capacity of staff	0.80 (0.02)	0.71 (0.03)	0.074	0.385
Encouraging individual, small-team, and whole-school problem-solving	0.78 (0.02)	0.69 (0.03)	0.092	0.228
Establishing and developing school leadership teams	0.78 (0.02)	0.72 (0.03)	0.064	0.238

NOTES: N = 325 CLS principals, 176 non-CLS principals.  
 Scale: 0 = insufficient or excessive for this school; 1 = appropriate and sufficient.

## Mapping the Relationships Between Conditions and Instructional Leadership Practices

In this section, we discuss the methodology we used to examine the relationship between principal-reported conditions and time spent and perceptions of the appropriateness of time spent on instructional leadership practices.

We used OLS, factoring in the complex survey design and the clustered nature of the data. We modeled each index of time spent and perceptions of time spent as the

dependent variable and each condition index or item as the independent variable. We included the school-level control variables described earlier in this appendix (reading proficiency, percentage of economically disadvantaged students, student enrollment, percentage of African-American enrollment, a school-level indicator, the principal's years of experience in the school) and an indicator for each district to control for district-level effects.

The model is the following:

$$Y = \alpha + \beta_1 C + \beta_2 R + \beta_3 ED + \beta_4 EN + \beta_5 A + \beta_6 HS + \beta_7 M + \beta_8 P + \beta_9 EX + \beta_{10} D + \epsilon \quad (1)$$

where

- $Y$  = index of principal's report of time spent on instructional leadership or that time spent was appropriate
- $\alpha$  = intercept
- $C$  = index of principal's report of any given condition
- $R$  = proportion of students in a principal's school achieving proficient or better on the state's reading or English language arts student assessment
- $ED$  = percentage of students in the school who are economically disadvantaged (eligible to receive free or reduced-price lunch)
- $EN$  = total student enrollment at the school
- $A$  = percentage of students in the school who are African-American
- $HS$  = a dummy variable that indicates whether the school is a high school (grades 9–12)
- $M$  = a dummy variable that indicates whether the school is a middle school (grades 6–8)
- $P$  = a dummy variable that indicates whether the school is a primary school (grades K–5)
- $EX$  = years of experience of the principal at the school
- $D$  = dummy variable for each study district
- $\epsilon$  = unmeasured error

For these models, we used the nonresponse weights calculated for the entire sample of principals (principals from all states included in the study as the population of interest), specifying the principal as the primary sampling unit and the school district as the stratum.

Tables F.28 through F.43 report standardized coefficients that are estimated after converting all the dependent and independent variables into having a mean of 0 and standard deviation of 1. We used the *listcoef* command in Stata developed by Long and Freese (2005) to calculate these coefficients. We can compare the standardized coefficients with each other to determine the relative magnitude of the relationship between a condition and an instructional leadership practice. The closer the coefficients are to

1.0, the stronger the relationship is between the condition and an instructional leadership practice. The results are organized by condition. We first present results on time spent on instructional leadership practices and then present results on perceptions of time spent.

**Table F.28**  
**OLS Regression Results for Data Index on Time Spent**

<b>Data Index</b>	<b>Coefficient</b>	<b>t-statistic</b>	<b>p-value</b>	<b>Standardized Coefficient</b>
Building a common vision	0.182 (0.049)	3.72	0.000	0.233
School improvement efforts	0.097 (0.046)	2.10	0.036	0.144
Supportive learning environment	0.032 (0.044)	0.72	0.472	0.046
Motivating students	0.095 (0.046)	2.08	0.038	0.137
Monitoring classroom instruction	0.138 (0.039)	3.51	0.000	0.215
Engaging with teachers outside of the classroom	0.090 (0.042)	2.15	0.032	0.142
Promoting staff PD	0.094 (0.042)	2.23	0.026	0.141
Motivating staff	0.114 (0.045)	2.52	0.012	0.166
Developing leadership teams	0.008 (0.052)	0.16	0.876	0.009

NOTE: N = 598; standard error shown in parentheses.

**Table F.29**  
**OLS Regression Results for Resources Index on Time Spent**

Resources Index	Coefficient	t-statistic	p-value	Standardized Coefficient
Building a common vision	0.065 (0.039)	1.65	0.099	0.097
School improvement efforts	0.095 (0.032)	2.96	0.003	0.166
Supportive learning environment	0.013 (0.032)	0.41	0.684	0.022
Motivating students	0.060 (0.034)	1.75	0.080	0.101
Monitoring classroom instruction	0.153 (0.030)	5.05	0.000	0.279
Engaging with teachers outside of the classroom	0.065 (0.029)	2.19	0.029	0.119
Promoting staff PD	0.121 (0.031)	3.87	0.000	0.212
Motivating staff	0.101 (0.035)	2.88	0.004	0.172
Developing leadership teams	0.046 (0.040)	1.16	0.247	0.066

NOTE: N = 598; standard error shown in parentheses.

**Table F.30**  
**OLS Regression Results for Aligned-Governance Item on Time Spent**

Aligned-Governance Item	Coefficient	t-statistic	p-value	Standardized Coefficient
Building a common vision	0.050 (0.026)	1.95	0.052	0.108
School improvement efforts	0.057 (0.021)	2.69	0.007	0.142
Supportive learning environment	0.013 (0.023)	0.56	0.574	0.032
Motivating students	0.063 (0.021)	2.89	0.004	0.152
Monitoring classroom instruction	0.087 (0.019)	4.47	0.000	0.228
Engaging with teachers outside of the classroom	0.058 (0.019)	2.95	0.003	0.153
Promoting staff PD	0.069 (0.023)	3.00	0.003	0.174
Motivating staff	0.056 (0.023)	2.39	0.017	0.136
Developing leadership teams	0.022 (0.029)	0.75	0.455	0.045

NOTE: N = 598; standard error shown in parentheses.

**Table F.31**  
**OLS Regression Results for Conflicting-Policies Item on Time Spent**

<b>Conflicting-Policies Item</b>	<b>Coefficient</b>	<b>t-statistic</b>	<b>p-value</b>	<b>Standardized coefficient</b>
Building a common vision	-0.032 (0.026)	-1.21	0.227	-0.066
School improvement efforts	-0.022 (0.022)	-1.02	0.310	-0.054
Supportive learning environment	0.032 (0.022)	1.40	0.161	0.074
Motivating students	-0.001 (0.023)	-0.05	0.963	-0.002
Monitoring classroom instruction	0.010 (0.022)	0.47	0.641	0.027
Engaging with teachers outside of the classroom	-0.018 (0.021)	-0.85	0.396	-0.046
Promoting staff PD	0.013 (0.023)	0.58	0.565	0.033
Motivating staff	0.017 (0.024)	0.72	0.469	0.042
Developing leadership teams	-0.003 (0.028)	-0.11	0.912	-0.006

NOTE: N = 598; standard error shown in parentheses.

**Table F.32**  
**OLS Regression Results for Quality-of-District-Provided-Tools,-PD,-and-Evaluation Item on Time Spent**

<b>Quality-of-District-Provided-Tools,-PD,-and-Evaluation Item</b>	<b>Coefficient</b>	<b>t-statistic</b>	<b>p-value</b>	<b>Standardized Coefficient</b>
Building a common vision	0.170 (0.036)	4.36	0.000	0.283
School improvement efforts	0.124 (0.029)	4.24	0.000	0.239
Supportive learning environment	0.060 (0.035)	1.70	0.089	0.112
Motivating students	0.136 (0.033)	4.04	0.000	0.253
Monitoring classroom instruction	0.176 (0.024)	7.20	0.000	0.356
Engaging with teachers outside of the classroom	0.160 (0.025)	6.22	0.000	0.326
Promoting staff PD	0.142 (0.030)	4.66	0.000	0.276
Motivating staff	0.163 (0.030)	5.30	0.000	0.306
Developing leadership teams	0.070 (0.039)	1.80	0.073	0.111

NOTE: N = 598; standard error shown in parentheses.

**Table F.33**  
**OLS Regression Results for District-Provides-Administrative-Assistance Item on Time Spent**

District-Provides-Assistance-with-Administrative-Duties (e.g., SAM) Item	Coefficient	t-statistic	p-value	Standardized Coefficient
Building a common vision	0.073 (0.024)	2.98	0.003	0.174
School improvement efforts	0.037 (0.019)	1.95	0.052	0.103
Supportive learning environment	-0.033 (0.020)	-1.67	0.096	-0.089
Motivating students	0.016 (0.020)	0.79	0.430	0.042
Monitoring classroom instruction	0.088 (0.021)	4.07	0.000	0.254
Engaging with teachers outside of the classroom	0.040 (0.018)	2.16	0.031	0.116
Promoting staff PD	0.057 (0.022)	2.60	0.010	0.160
Motivating staff	0.085 (0.021)	3.92	0.000	0.228
Developing leadership teams	-0.022 (0.025)	-0.87	0.387	-0.049

NOTE: N = 598; standard error shown in parentheses.

**Table F.34**  
**OLS Regression Results for District-Provides-Sufficient-and-Qualified-Leadership-Staff Item on Time Spent**

District-Provides-Sufficient-and-Qualified Leadership-Staff (e.g., Assistant Principals, school-based coaches) Item	Coefficient	t-statistic	p-value	Standardized Coefficient
Building a common vision	0.049 (0.027)	1.82	0.070	0.109
School improvement efforts	0.047 (0.021)	2.17	0.031	0.120
Supportive learning environment	-0.008 (0.020)	-0.39	0.697	-0.019
Motivating students	0.038 (0.020)	1.82	0.069	0.095
Monitoring classroom instruction	0.064 (0.022)	2.84	0.005	0.173
Engaging with teachers outside of the classroom	0.046 (0.020)	2.32	0.021	0.126
Promoting staff PD	0.067 (0.023)	2.90	0.004	0.174
Motivating staff	0.066 (0.024)	2.69	0.007	0.165
Developing leadership teams	0.028 (0.028)	1.02	0.308	0.061

NOTE: N = 598; standard error shown in parentheses.

**Table F.35**  
**OLS Regression Results for Autonomy Index on Time Spent**

<b>Autonomy Index</b>	<b>Coefficient</b>	<b>t-statistic</b>	<b>p-value</b>	<b>Standardized Coefficient</b>
Building a common vision	0.101 (0.052)	1.94	0.052	0.125
School improvement efforts	0.159 (0.043)	3.66	0.000	0.230
Supportive learning environment	0.099 (0.045)	2.16	0.031	0.137
Motivating students	0.088 (0.046)	1.89	0.060	0.123
Monitoring classroom instruction	0.181 (0.042)	4.23	0.000	0.274
Engaging with teachers outside of the classroom	0.192 (0.037)	5.17	0.000	0.292
Promoting staff PD	0.267 (0.039)	6.84	0.000	0.389
Motivating staff	0.221 (0.044)	5.03	0.000	0.310
Developing leadership teams	0.142 (0.058)	2.45	0.015	0.168

NOTE: N = 598; standard error shown in parentheses.

**Table F.36**  
**OLS Regression Results for Data Index on Appropriateness of Time Spent**

<b>Data Index</b>	<b>Coefficient</b>	<b>t-statistic</b>	<b>p-value</b>	<b>Standardized Coefficient</b>
Building a common vision	0.065 (0.041)	1.58	0.116	0.089
School improvement efforts	0.087 (0.033)	2.60	0.010	0.141
Supportive learning environment	0.064 (0.037)	1.70	0.090	0.095
Motivating students	0.089 (0.039)	2.29	0.022	0.134
Monitoring classroom instruction	0.124 (0.042)	2.96	0.003	0.164
Engaging with teachers outside of the classroom	0.059 (0.033)	1.81	0.071	0.100
Promoting staff PD	0.079 (0.037)	2.10	0.036	0.118
Motivating staff	0.109 (0.034)	3.19	0.002	0.161
Developing leadership teams	0.045 (0.034)	1.33	0.183	0.067

NOTE: N = 598; standard error shown in parentheses.

**Table F.37**  
**OLS Regression Results for Resources Index on Appropriateness of Time Spent**

Resources Index	Coefficient	t-statistic	p-value	Standardized Coefficient
Building a common vision	0.147 (0.035)	4.22	0.000	0.236
School improvement efforts	0.127 (0.027)	4.64	0.000	0.243
Supportive learning environment	0.080 (0.034)	2.30	0.022	0.139
Motivating students	0.096 (0.032)	2.96	0.003	0.169
Monitoring classroom instruction	0.181 (0.033)	5.44	0.000	0.280
Engaging with teachers outside of the classroom	0.112 (0.027)	4.13	0.000	0.221
Promoting staff PD	0.196 (0.030)	6.34	0.000	0.343
Motivating staff	0.157 (0.028)	5.51	0.000	0.271
Developing leadership teams	0.085 (0.031)	2.73	0.007	0.147

NOTE: N = 598; standard error shown in parentheses.

**Table F.38**  
**OLS Regression Results for Aligned-Governance Item on Appropriateness of Time Spent**

Aligned-Governance Item	Coefficient	t-statistic	p-value	Standardized Coefficient
Building a common vision	0.075 (0.020)	3.63	0.000	0.173
School improvement efforts	0.028 (0.021)	1.34	0.181	0.077
Supportive learning environment	0.013 (0.026)	0.51	0.609	0.033
Motivating students	0.021 (0.023)	0.92	0.359	0.053
Monitoring classroom instruction	0.030 (0.027)	1.10	0.271	0.067
Engaging with teachers outside of the classroom	0.008 (0.019)	0.43	0.665	0.023
Promoting staff PD	0.042 (0.024)	1.73	0.084	0.106
Motivating staff	0.041 (0.022)	1.80	0.073	0.101
Developing leadership teams	0.046 (0.023)	1.94	0.052	0.113

NOTE: N = 598; standard error shown in parentheses.

**Table F.39**  
**OLS Regression Results for Conflicting-Policies Item on Appropriateness of Time Spent**

Conflicting-Policies Item	Coefficient	t-statistic	p-value	Standardized Coefficient
Building a common vision	-0.028 (0.023)	-1.23	0.218	-0.063
School improvement efforts	-0.021 (0.021)	-1.03	0.306	-0.057
Supportive learning environment	-0.031 (0.022)	-1.40	0.162	-0.076
Motivating students	-0.025 (0.023)	-1.11	0.268	-0.062
Monitoring classroom instruction	-0.022 (0.025)	-0.90	0.366	-0.048
Engaging with teachers outside of the classroom	-0.031 (0.020)	-1.55	0.122	-0.086
Promoting staff PD	-0.023 (0.021)	-1.07	0.285	-0.056
Motivating staff	-0.019 (0.021)	-0.92	0.361	-0.046
Developing leadership teams	-0.064 (0.023)	-2.81	0.005	-0.154

NOTE: N = 598; standard error shown in parentheses.

**Table F.40**  
**OLS Regression Results for District-Provided-Tools,-PD,-and-Evaluation Item on Appropriateness of Time Spent**

Quality-of-District-Provided-Tools,-PD,-and-Evaluation Item	Coefficient	t-statistic	p-value	Standardized Coefficient
Building a common vision	0.084 (0.033)	2.50	0.013	0.149
School improvement efforts	0.058 (0.028)	2.03	0.043	0.122
Supportive learning environment	-0.010 (0.029)	-0.37	0.715	-0.020
Motivating students	0.068 (0.028)	2.36	0.018	0.132
Monitoring classroom instruction	0.103 (0.035)	2.95	0.003	0.177
Engaging with teachers outside of the classroom	0.023 (0.027)	0.85	0.397	0.050
Promoting staff PD	0.083 (0.032)	2.57	0.010	0.162
Motivating staff	0.079 (0.030)	2.61	0.009	0.152
Developing leadership teams	0.067 (0.029)	2.26	0.024	0.129

NOTE: N = 598; standard error shown in parentheses.

**Table F.41**  
**OLS Regression Results for District-Provides-Administrative-Assistance Item on**  
**Appropriateness of Time Spent**

<b>District-Provides-Assistance-with-Administrative-Duties (e.g., SAM) Item</b>	<b>Coefficient</b>	<b>t-statistic</b>	<b>p-value</b>	<b>Standardized Coefficient</b>
Building a common vision	0.068 (0.022)	3.02	0.003	0.172
School improvement efforts	0.010 (0.020)	0.50	0.620	0.031
Supportive learning environment	0.005 (0.020)	0.29	0.770	0.016
Motivating students	0.005 (0.020)	0.25	0.805	0.013
Monitoring classroom instruction	0.063 (0.023)	2.73	0.007	0.155
Engaging with teachers outside of the classroom	0.000 (0.020)	0.04	0.969	0.002
Promoting staff PD	0.019 (0.022)	0.87	0.385	0.053
Motivating staff	0.009 (0.022)	0.40	0.689	0.025
Developing leadership teams	-0.015 (0.022)	-0.68	0.499	-0.041

NOTE: N = 598; standard error shown in parentheses.

**Table F.42**  
**OLS Regression Results for District-Provides-Sufficient-and-Qualified-Leadership-Staff Item**  
**on Appropriateness of Time Spent**

<b>District-Provides-Sufficient-and-Qualified-Leadership-Staff (e.g., assistant principals, school-based coaches) Item</b>	<b>Coefficient</b>	<b>t-statistic</b>	<b>p-value</b>	<b>Standardized Coefficient</b>
Building a common vision	0.056 (0.026)	2.16	0.031	0.134
School improvement efforts	0.030 (0.020)	1.47	0.142	0.085
Supportive learning environment	-0.003 (0.021)	-0.17	0.865	-0.009
Motivating students	0.017 (0.020)	0.85	0.393	0.045
Monitoring classroom instruction	0.055 (0.024)	2.26	0.024	0.127
Engaging with teachers outside of the classroom	0.000 (0.021)	0.04	0.965	0.002
Promoting staff PD	0.044 (0.023)	1.88	0.061	0.117
Motivating staff	0.041 (0.022)	1.83	0.068	0.104
Developing leadership teams	0.028 (0.021)	1.33	0.186	0.075

NOTE: N = 598; standard error shown in parentheses.

**Table F.43**  
**OLS Regression Results for Autonomy Index on Appropriateness of Time Spent**

<b>Autonomy Index</b>	<b>Coefficient</b>	<b>t-statistic</b>	<b>p-value</b>	<b>Standardized Coefficient</b>
Building a common vision	0.156 (0.046)	3.40	0.001	0.207
School improvement efforts	0.069 (0.043)	1.58	0.115	0.108
Supportive learning environment	-0.085 (0.050)	-1.70	0.089	-0.123
Motivating students	0.062 (0.043)	1.42	0.155	0.090
Monitoring classroom instruction	0.123 (0.057)	2.16	0.031	0.158
Engaging with teachers outside of the classroom	0.016 (0.043)	0.38	0.705	0.027
Promoting staff PD	0.065 (0.049)	1.31	0.190	0.094
Motivating staff	0.093 (0.051)	1.83	0.068	0.134
Developing leadership teams	0.152 (0.040)	3.73	0.000	0.217

NOTE: N = 598; standard error shown in parentheses.

## References

---

- Bardach, Eugene, *Getting Agencies to Work Together: The Practice and Theory of Managerial Craftsmanship*, Washington, D.C.: Brookings, 1998.
- , “Developmental Dynamics: Interagency Collaboration as an Emergent Phenomenon,” *Journal of Public Administration Research and Theory*, Vol. 11, No. 2, April 2001, pp. 149–164.  
As of October 18, 2009:  
<http://jpart.oxfordjournals.org/cgi/reprint/11/2/149>
- Blase, Rebajo R., and Joseph J. Blase, *Handbook of Instructional Leadership: How Successful Principals Promote Teaching and Learning*, Thousand Oaks, Calif.: Corwin Press, 2004.
- Bolman, Lee G., and Terrence E. Deal, *Reframing Organizations: Artistry, Choice, and Leadership*, Hoboken, N.J.: John Wiley and Sons, 2003.
- Brewer, Dominic J., “Principal and Student Outcomes: Evidence from U.S. High Schools,” *Economics of Education Review*, Vol. 12, No. 4, December 1993, pp. 281–292.
- Bryk, Anthony S., Penny B. Bebring, David Kerbow, Sharon Rollow, and John Q. Easton, *Charting Chicago School Reform: Democratic Localism as a Lever for Change*, Boulder, Colo.: Westview Press, 1998.
- Bryson, John M., Barbara C. Crosby, and Melissa Middleton Stone, “The Design and Implementation of Cross-Sector Collaborations: Propositions from the Literature,” *Public Administration Review*, Vol. 66, Special Issue, December 2006, pp. 44–55.
- Coffin, G. A., “The Impact of District Conditions on Principals’ Experientially Acquired Professional Learning,” Doctoral dissertation, University of Toronto, Canada, *Dissertation Abstracts International*, Vol. 59, No. 6, 1997, p. 1844.
- Copland, M. A., “Problem-Based Learning, Problem-Framing Ability and the Principal Selves of Prospective School Principals,” Doctoral dissertation, Stanford University, *Dissertation Abstracts International*, Vol. 60, No. 8, 1999, p. 2750.
- Council of Chief State School Officers (CCSSO), *Interstate School Leaders Licensure Consortium: Standards for School Leaders*, Washington, D.C.: Council of Chief State School Officers, 1996.  
As of October 18, 2009:  
<http://www.ccsso.org/content/pdfs/isllcstd.pdf>
- Council of Chief State School Officers State Education Center, *School Data Direct*, 2009.  
As of October 18, 2009:  
<http://www.schooldatadirect.org>

- Crews, Alton C., and Sonya Weakley, *Making Leadership Happen: The SREB Model for Leadership Development*, Southern Regional Education Board (SREB) Leadership Preparation Program, 1996. As of October 18, 2009:  
<http://www.sreb.org/main/Leadership/pubs/TableOfContents.asp>
- Darling-Hammond, Linda, Michelle LaPointe, Debra Meyerson, and Margaret Terry Orr, *Preparing School Leaders for a Changing World: Lessons from Exemplary Leadership Development Programs: Final Report*, Stanford, Calif.: Stanford University, Stanford Educational Leadership Institute, April 2007. As of October 18, 2009:  
[http://www.srnleads.org/data/pdfs/sls/sls\\_tech\\_report.pdf](http://www.srnleads.org/data/pdfs/sls/sls_tech_report.pdf)
- Davis, Stephen, Linda Darling-Hammond, Michelle LaPointe, and Debra Meyerson, *School Leadership Study: Developing Successful Principals* (Review of Research), Stanford, Calif.: Stanford University, Stanford Educational Leadership Institute, 2005.
- Eberts, Randall W., and Joe A. Stone, "Student Achievement in Public Schools: Do Principals Make a Difference?" *Economics of Education Review*, Vol. 7, No. 3, 1988, pp. 291–299.
- Education Commission of the States, *State Constitutions and Public Education Governance*, Denver, Colo.: Education Commission of the States, updated October 2000. As of October 18, 2009:  
<http://www.ecs.org/clearinghouse/17/03/1703.htm>
- Elmore, Richard F., *Building a New Structure for School Leadership*, Washington, D.C.: Albert Shanker Institute, 2000.
- Fink, Elaine, and Lauren B. Resnick, "Developing Principals as Instructional Leaders," *Phi Delta Kappan*, Vol. 82, No. 8, 2001, pp. 598–606.
- Fuhrman, Susan H. (ed.), *Designing Coherent Education Policy: Improving the System*, San Francisco, Calif.: Jossey-Bass Publishers, 1993.
- Fuhrman, Susan H., Margaret E. Goertz, and Elliot H. Weinbaum, "Educational Governance in the United States: Where Are We? How Did We Get Here? Why Should We Care? In Susan H. Fuhrman, David K. Cohen, and Fritz Mosher (eds.), *The State of Education Policy Research*, London: Taylor & Francis, 2007.
- Fuller, Bruce, Susanna Loeb, Nicole Arshan, Allison Chen, and Susanna Yi, *California Principals' Resources: Acquisition, Deployment and Barriers*, Policy Analysis for California Education (PACE), 2007. As of October 18, 2009:  
<http://pace.berkeley.edu/2007/04/02/107/>
- Hallinger, Philip, Leonard Bickman, and Ken Davis, "School Context, Principal Leadership, and Student Reading Achievement," *The Elementary School Journal*, Vol. 96, No. 5, 1996, pp. 527–549. As of October 18, 2009:  
<http://www.philiphallinger.com/papers/EAQ%20Leadership%20study%201996.pdf>
- Hallinger, Philip, and Ronald H. Heck, "Reassessing the Principal's Role in School Effectiveness: A Review of Empirical Research, 1980–1995," *Educational Administration Quarterly*, Vol. 32, No. 1, February 1996, pp. 5–44.
- Hatch, Thomas, "When Improvement Programs Collide," *Phi Delta Kappan*, Vol. 83, No. 8, April 2002, pp. 626–634, 639.
- Heck, Ronald H., Terry J. Larson, and George A. Marcoulides, "Instructional Leadership and School Achievement: Validation of a Causal Model," *Educational Administration Quarterly*, Vol. 26, No. 2, May 1990, pp. 94–125.

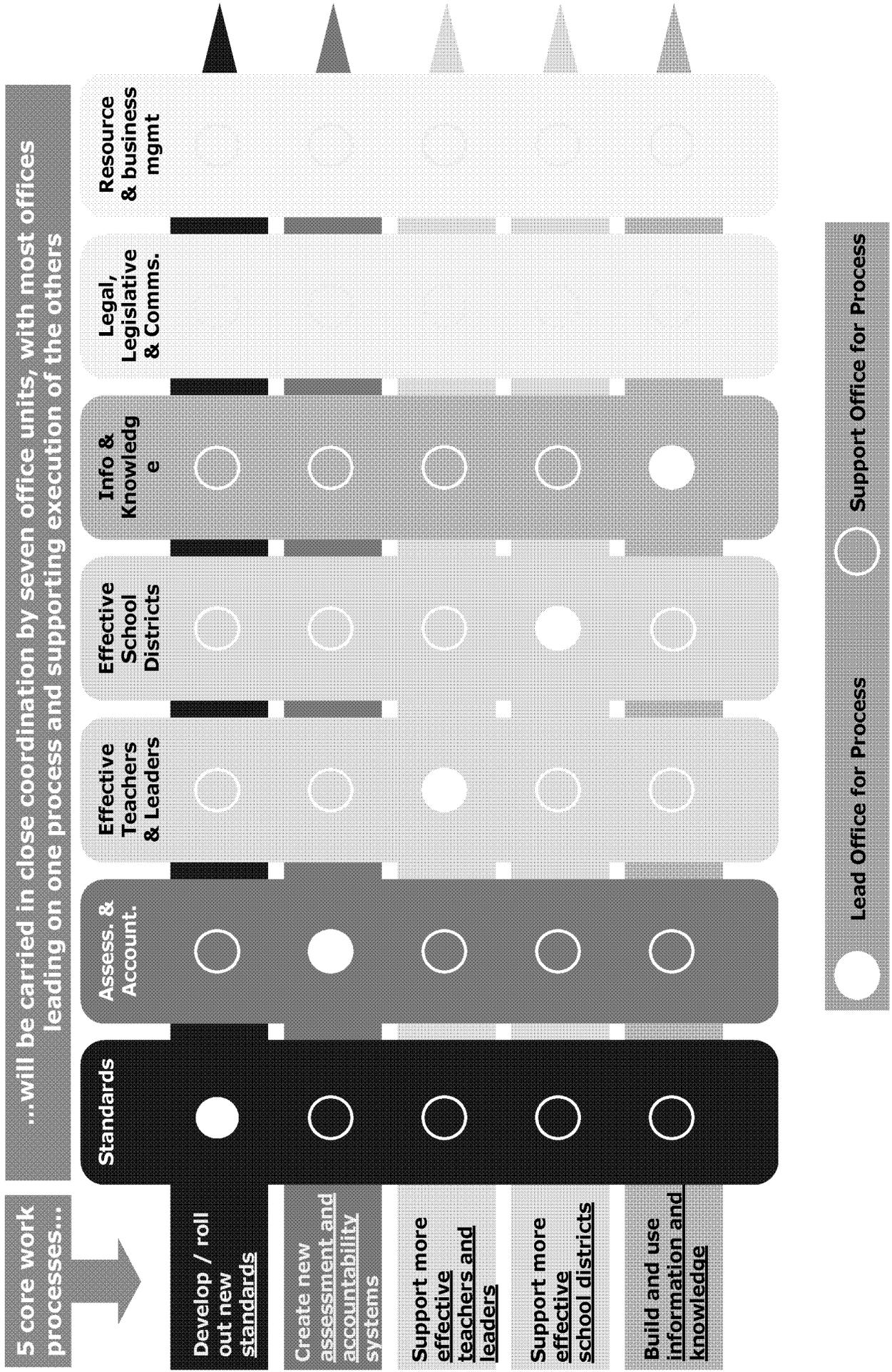
- Hill, Peter W., "What Principals Need to Know About Teaching and Learning," in Marc S. Tucker and Judy B. Coddling (eds.), *The Principal Challenge: Leading and Managing Schools in an Era of Accountability*, San Francisco, Calif.: Jossey-Bass Publishers, 2002, pp. 43–75.
- Holland, Holly, *Out of the Office and into the Classroom: An Initiative to Help Principals Focus on Instruction*, New York: The Wallace Foundation, 2008. As of October 18, 2009: <http://www.wallacefoundation.org/SiteCollectionDocuments/WF/Knowledge%20Center/Attachments/PDF/stories-from-field-out-of-the-office.pdf>
- Honig, Meredith I., and Thomas C. Hatch, "Crafting Coherence: How Schools Strategically Manage Multiple, External Demands," *Educational Researcher*, Vol. 33, No. 8, 2004, pp. 16–30. As of October 18, 2009: <http://education.washington.edu/areas/edlps/profiles/faculty/papers/ER%20Honig%20and%20Hatch%202004.pdf>
- Hoyle, John R., Fenwick W. English, and Betty E. Steffy, *Skills for Successful 21st Century School Leaders: Standards for Peak Performers*, 3rd ed., Arlington, Va.: American Association of School Administrators, 1998.
- Institute for Educational Leadership (IEL), *Leadership for Student Learning: Reinventing the Principalship*, a report of the Task Force on the Principalship, October 2000. As of October 18, 2009: <http://www.iel.org/programs/21st/reports/principal.pdf>
- Johnson, Jean, Ana Maria Arumi, and Amber Ott, *Reality Check 2006: Is Support for Standards and Testing Fading?* Public Agenda, 2006. As of October 18, 2009: <http://www.publicagenda.org/reports/reality-check-2006-issue-no-3>
- Knapp, Michael S., Michael A. Copland, Margaret L. Plecki, and Bradley S. Portin, *Leading, Learning, and Leadership Support*, Seattle, Wash.: Center for the Study of Teaching and Policy, University of Washington, October 2006.
- Knapp, Michael S., Michael A. Copland, and Joan E. Talbert, *Leading for Learning: Reflective Tools for School and District Leaders*, Seattle, Wash.: Center for the Study of Teaching and Policy, University of Washington, February 2003.
- Lane, B., and S. Gracia, "State-Level Support for Comprehensive School Reform: Implications for Policy and Practice," *Journal of Education for Students Placed at Risk*, Vol. 10, No.1, 2004, pp. 85–112.
- Lashway, Larry, "Research Roundup: Rethinking the Principalship," *ERIC Clearinghouse on Educational Policy and Management*, Vol. 18, No. 3, 2002. As of October 18, 2009: [https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/3484/roundups\\_Spring\\_2002.pdf?sequence=1](https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/3484/roundups_Spring_2002.pdf?sequence=1)
- Legler, Ray, and Thomas Reischl, "The Relationship of Key Factors in the Process of Collaboration: A Study of School-to-Work Coalitions," *Journal of Applied Behavioral Science*, Vol. 39, No. 1, March 2003, pp. 53–72.
- Leithwood, Kenneth, Karen Seashore Louis, Stephen Anderson, and Kyla Wahlstrom, *How Leadership Influences Student Learning*, Minneapolis, Minn.: Center for Applied Research and Educational Improvement, University of Minnesota, September 2004.
- Long, J. Scott, and Jeremy Freese, *Regression Models for Categorical Outcomes Using Stata*, 2nd ed., College Station, Tex.: Stata Press, 2005.
- Lundin, Martin, "When Does Cooperation Improve Public Policy Implementation?" *The Policy Studies Journal*, Vol. 35, No. 4, 2007, pp. 629–652.

- Madda, Christina L., Richard R. Halverson, and Louis M. Gomez, "Exploring Coherence as an Organizational Resource for Carrying Out Reform Initiatives," *Teachers College Record*, Vol. 109, No. 8, 2007, pp. 1957–1979.
- Marks, Helen, and Susan Printy, "Principal Leadership and School Performance: An Integration of Transformational and Instructional Leadership," *Educational Administration Quarterly*, Vol. 39, No. 3, 2003, pp. 370–397.
- May, Peter J., Joshua Sapotichne, and Samuel Workman, "Policy Coherence and Policy Domains," *Policy Studies Journal*, Vol. 34, No. 3, August 2006, pp. 381–403.
- Mazzeo, Christopher, *Improving Teaching and Learning by Improving School Leadership*, Issue Brief, Washington, D.C.: National Governors Association Center for Best Practices, Educational Policy Studies Division, 2003. As of October 18, 2009:  
<http://www.nga.org/Files/pdf/091203LEADERSHIP.pdf>
- McDonnell, Lorraine, "The Politics of Education: Influencing Policy and Beyond," in Susan H. Fuhrman, David K. Cohen, and Fritz Mosher (eds.), *The State of Education Policy Research*, Mahwah, N.J.: Lawrence Erlbaum Associates, 2007.
- McGuire, Michael, "Collaborative Public Management: Assessing What We Know and How We Know It," *Public Administration Review*, Vol. 66, No. s1, December 2006, pp. 33–43.
- Murphy, Joseph, "Reculturing Educational Leadership: The ISLLC Standards Ten Years Out," Vanderbilt University, paper prepared for the National Policy Board for Educational Administration, September 2003. As of October 18, 2009:  
[http://www.npbea.org/Resources/ISLLC\\_10\\_years\\_9-03.pdf](http://www.npbea.org/Resources/ISLLC_10_years_9-03.pdf)
- Murphy, M., M. Martin, and R. Muth, "Partnerships for Preparing School Leaders: Possibilities and Practicalities," in R. Muth and M. Martin (eds.), *Toward the Year 2000: Leadership and Quality Schools. The Sixth Yearbook of the National Council of Professors of Educational Administration*, Lanham, Md.: Scarecrow Press, 1997, pp. 238–246.
- National Center for Education Statistics (NCES), *NAEP Overview*, Jessup, Md.: U.S. Department of Education, Institute of Education Sciences, nd. As of October 16, 2009:  
<http://nces.ed.gov/nationsreportcard/about/>
- National College for School Leadership (NCSL), *What We Know About School Leadership*, Nottingham, UK: National College for School Leadership, May 2007. As of October 18, 2009:  
<http://www.nationalcollege.org.uk/docinfo?id=17480&filename=what-we-know-about-school-leadership.pdf>
- Newmann, Fred M., BetsAnn Smith, Elaine Allensworth, and Anthony S. Bryk, "Instructional Program Coherence: What It Is and Why It Should Guide School Improvement Policy," *Educational Evaluation and Policy Analysis*, Vol. 23, No. 4, 2001, pp. 297–321.
- Norton, John, Kathy O'Neill, Betty Fry, and David Hill, "Universities in the Lead: Redesigning Leadership Preparation for Student Achievement," *SREB Leadership Newsletter*, Fall 2002, pp. 1–27.
- Peterson, Kent D., "The Professional Development of Principals: Innovations and Opportunities," *Educational Administration Quarterly*, Vol. 38, No. 2, 2002, pp. 213–232.
- Portin, Bradley, Paul Schneider, Michael DeArmond, and Lauren Gundlach, *Making Sense of Leading Schools: A Study of the School Principalship*, Seattle, Wash.: Center on Reinventing Public Education, University of Washington, September 2003. As of October 18, 2009:  
[http://www.crpe.org/cs/crpe/view/csr\\_pubs/24](http://www.crpe.org/cs/crpe/view/csr_pubs/24)

- Provan, Keith G., and H. Brinton Milward, "A Preliminary Theory of Interorganizational Network Effectiveness: A Comparative Study of Four Community Mental Health Systems," *Administrative Science Quarterly*, Vol. 40, No. 1, March 1995, pp. 1–33.
- Southern Regional Education Board (SREB), *Academies in the Lead: Redesigning Leadership Academies for Student Achievement*, newsletter, Atlanta, Ga.: SREB, 2003. As of October 18, 2009: [http://www.sreb.org/main/Leadership/pubs/03V59\\_Leadership\\_newsletter.pdf](http://www.sreb.org/main/Leadership/pubs/03V59_Leadership_newsletter.pdf)
- , *Schools Can't Wait: Accelerating the Redesign of University Preparation Programs*, Atlanta, Ga.: SREB, 2006. As of October 18, 2009: [http://www.sreb.org/programs/hstwl/publications/special/06V04\\_Schools\\_Cant\\_Wait.pdf](http://www.sreb.org/programs/hstwl/publications/special/06V04_Schools_Cant_Wait.pdf)
- Spillane, James P., "Cognition and Policy Implementation: District Policymakers and the Reform of Mathematics Education," *Cognition and Instruction*, Vol. 18, No. 2, 2000, pp. 141–179.
- Tharp-Taylor, Shannah, Catherine Awsumb Nelson, Laura S. Hamilton, and Kun Yuan, *Pittsburgh Public Schools' Excellence for All Year 2 Evaluation*, Santa Monica, Calif.: RAND Corporation, DB-575-1-PPS, 2009. As of October 18, 2009: [http://www.rand.org/pubs/documented\\_briefings/DB575-1/](http://www.rand.org/pubs/documented_briefings/DB575-1/)
- Thomson, Ann Marie, and James L. Perry, "Collaboration Processes: Inside the Black Box," *Public Administration Review*, Vol. 66, No. s1, December 2006, pp. 20–32. As of October 18, 2009: <http://www3.interscience.wiley.com/cgi-bin/fulltext/118561473/PDFSTART>
- Unger, Chris, Brett Lane, Elisabeth Cutler, Saeyun Lee, Joye Whitney, Elise Arruda, and Martin Silva, *How Can State Education Agencies Support District Improvement? A Conversation Amongst Educational Leaders, Researchers, and Policy Actors*, Providence, R.I.: The Education Alliance at Brown University, 2008.
- Usdan, Michael, Barbara McCloud, and Mary Podmostko, *Leadership for Student Learning: Reinventing the Principalship*, Washington, D.C.: Institute for Educational Leadership, October 2000.
- U.S. Department of Education, Institute of Education Sciences' National Center for Education Statistics, *Common Core of Data 2006–2007*. As of May 13, 2009: <http://nces.ed.gov/ccd/>
- Vitaska, Sarah, *Strong Leaders Strong Schools: 2007 State Laws*, Denver, Colo.: National Conference of State Legislatures, 2008.
- The Wallace Foundation, "Wallace Launches Major State-District Initiative to Strengthen School Leadership," press release, January 8, 2002. As of October 18, 2009: <http://www.wallacefoundation.org/NewsRoom/PressRelease/Pages/1-8-02-DistrictState.aspx>
- , *Leadership for Learning: Making the Connections Among State, District and School Policies and Practices*, New York, September 2006. As of October 18, 2009: <http://www.wallacefoundation.org/SiteCollectionDocuments/WF/Knowledge%20Center/Attachments/PDF/FINALWallaceCLSPerspective.pdf>
- Waters, Tim, Robert J. Marzano, and Brian McNulty, *Balanced Leadership: What 30 Years of Research Tells Us About the Effect of Leadership on Student Achievement*, Aurora, Colo.: Mid-Continent Research for Education and Learning, 2003.
- Wirt, Frederick, and Michael Kirst, *Political Dynamics of American Education*, Richmond, Calif.: McCutchan Publishing Company, 1997.

Young, Michelle D., George J. Petersen, and Paula M. Short, "The Complexity of Substantive Reform: A Call for Interdependence Among Key Stakeholders," *Educational Administration Quarterly*, Vol. 38, No. 2, 2002, p. 137. As of October 18, 2009:  
[http://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1025&context=gse\\_fac](http://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1025&context=gse_fac)

# Overview: How KDE is organizing to undertake this work



**Kentucky Department of Education  
Roll-Out and Professional Learning Plan  
November 1, 2009**

**READY**





## **Strategic goal – 21<sup>st</sup> Century Professionals**

**Strategic goal - P-16 educators and administrators will effectively implement new academic core standards in Math and Language Arts by August 2010**

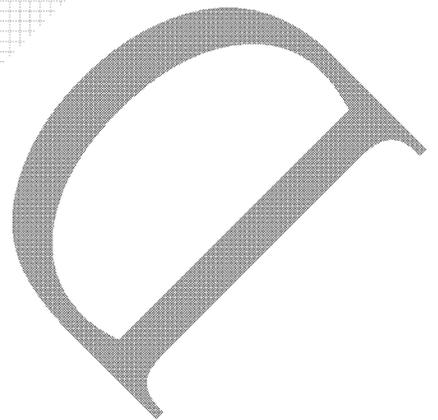
## **Strategy – New Standards and Assessments**

# Assessment Literacy

Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
1 Step 1: Introduction to Assessment Literacy	Ken Draut Felicia C. Smith	Staff	12/1/09	2/1/10	Documents will appear on KDE website	N/A	Add Counter on website to number of persons completing
2 Step 2: Webinar for Educators to Implement Assessment Literacy (Stiggins)	Felicia C. Smith Chris Powell	Staff KET	12/1/09	4/1/10	Webinars will be posted Completion results of participants	Analyze participant demographics for consistency across the state	Survey will give information on understanding information p Results from survey for understanding information p Survey will give information on understanding information p
3 Step 3: Follow-up of the Assessment Literacy Implementation	Rhonda Sims	Staff	01/10	02/11	Counter on survey on website to calculate number of persons logging on	N/A	N/A

Event Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
1 Initiation to Adult Literacy	Lisa Gross	KET/KDE media resources Use of school based TV networks to send message across entire state. Use of local TV networks to send message across entire state. Use of radio stations to send message out across entire state	01/10	02/11	Through surveys that give us info back on the understanding of information presented.	Analysis of demographic information	Survey will give information on understanding information p
2 Engage to every segment through face-to-face, webinars, adult literacy	Rhonda Sims	\$25,000	01/10	02/11	Through surveys that give us info back on the understanding of information presented or the completion of assessment modules	Training is duplicated throughout KY	Survey will give information on understanding information p
3 Engage to regional face-to-face webinars, online literacy modules,	Rhonda Sims	\$25,000	01/10	02/11	Through surveys that give us info back on the understanding of information presented. Or the completion of assessment modules.	Training is duplicated throughout KY	Survey will give information on understanding information p

Event Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
2. Dissemination of the assessment instrument.	Core Oversight Team	Leadership Network Model	12/1/09	2/1/10	All surveys from the facilitators have been collected and analyzed.	N/A	N/A
3. Network District teams will assist to classroom Student	Core Oversight team	Leadership Network Model	6/1/10	On-going	This will be ongoing however growth will be determined by accountability results	Results of observations of training	Continuous Improvement information Student Assessment Results



**Strategic goal –21<sup>st</sup> Century Professionals**

**Strategic goal - P-16 educators and administrators will effectively implement new academic core standards in Math and Language Arts by August 2010**

**Strategy – New Standards and Assessments**

# Dissemination of Standards

Event Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:	
					Completion	Fidelity
Materials are available & resources if CCSSO	Lisa Gross/Communications Committee	N/A	12/15/09	2/1/10	Copies of any existing print materials	N/A
Awareness of standards being for KDE	Felicia C. Smith	Copies of standards, additional materials designed for this purpose from OTL budget - \$28,000	12/15/09	3/30/10	Session sign in sheets	Common vocabulary among KDE employees prior to standards deployment
Continuation of awareness						Incorporation of materials into created documents
Participation in modules with up during LA initiatives of						Consistent message across all stakeholders
Person with key articulate standards work resources	Frank Rasche Ruth Webb	Staff	As needed	As needed	Feedback from Ruth and Frank	Increase support additional resources redirection of funds for standards deployment
Lucky Tonight man to standards and stance to KY	Lisa Gross/Communications Committee	KET/KDE staff	11/15/09	3/1/10	Event planned and Implemented	Consistent message about broader discussion possible appear among stakeholder communication

Event Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
Kentucky Living" magazine	Lisa Gross/Communications Committee	Staff	11/15/09	3/1/10	Article planned and published	N/A	Consistent message about article appear among stakeholder communication
Articles and news items appearing in KY	Lisa Gross Felicia C. Smith Sally Sugg	Staff	2/10/09	On-going	Article planned and published	N/A	Consistent message about article appear among educators
Articles and/or pieces, role group---its, teachers, business, etc. ---that standards and to be used on web by various	Lisa Gross/Communications Committee	Staff	12/15/09	2/1/10	Completed communication pieces Appearance of articles in various state wide publications (Kentucky Living, etc.), in organization newsletters, in education related newsletters	Consistent message about standards will appear among all stakeholder communications	Consistent message about standards will appear among stakeholder communication
Online/talking business resources strict use with and in other group meetings	Lisa Gross/Communications Committee	Staff	12/15/09	2/10/10	Completed outlines and resource packets	Consistent message about standards will be communicated in group meetings	Parents and other stakeholders demonstrate awareness and understanding of standards
Meeting with PE	Lisa Gross/Communications Committee	N/A	2/10/10	2/10/10	Event planned and Implemented	N/A	Discussion of standards among stakeholders in news media

Event Step	Initial Identification of Standards	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
						Completion	Fidelity	Indicators
Press service for use by all a--television, school radio	Lisa Gross/Communications Committee	Staff	2/10/10	2/10/10	Event planned and Implemented	Consistent message in news media	Discussion of among stakeholders in news media	
	Lisa Gross/Communications Committee	KDE communications budget	1/1/10	3/30/10	Completed PSAs Use of PSAs by state media outlets	N/A	Discussion of among stakeholders	
on KDE, CPE websites and a-related sites heard SB;KCTCS, universities) or them	Lisa Gross/Communications Committee	N/A	2/10/10	2/10/10	Standards posted and/or links on various websites	N/A	Consistency on websites Easy access to that explain the standards are stakeholders	
is information tion-related s (i.e. er, Facebook,	Lisa Gross/Communications Committee	N/A	2/10/10	2/10/10	Messages about standards will appear on key websites	Consistent messages will appear on blogs and other electronic sites	Key community discussions about standards appear regularly on key sites Positive message increase	
akers bureau PowerPoint, and other intranet	Lisa Gross/Communications Committee Felicia C. Smith	No cost other than print materials from above items Prichard Committee	12/15/09	2/10/10	Speakers recruited, lists including contact information easily available to organizations	Consistent messages will be delivered by all speakers	Accurate information will be accessible through traditional and increased use of standards among stakeholders	

Event Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
Identify initial needs of groups	Lisa Gross/Communications Committee Felicia C. Smith	KDE technology budget	1/1/10	ongoing	Webinars designed, delivered, and accessible.	Webinars will be archived for fidelity of duplication	Improved flow accurate information regarding state
Develop activities committee other materials for use other civic	Lisa Gross/Communications Committee Felicia C. Smith	Staff	12/15/09	April	Activities prepared and submitted to key organizations List of organizations using activities with feedback	Consistent messages will be delivered by all utilizing standardized activities	Increased understanding of standards and stakeholders
Developing to national level to include workshops and conferences	Sally Sugg Felicia C. Smith	Staff	1/1/10	On-going	Schedule of workshops and agendas	Consistent messages will be delivered by professional organizations	Increased understanding of standards and stakeholders
Develop boards to standards	Lisa Gross/Communications Committee	Travel budgets	12/15/09	On-going	Meetings with editorial boards including but not limited to Courier-Journal, Herald Leader	Consistent messages will appear in news media	Increased understanding of standards and stakeholders
Develop editorials for the print media	Lisa Gross/Communications Committee	Staff	1/1/10	3/30/10	Sample editorials created "Authors" recruited Appearance of editorials in statewide media	Consistent messages will appear in news media	Increased understanding of standards and stakeholders Discussion of among stakeholders

Event Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
Business and community members in education	Ruth Webb	Travel Budget	1/1/10	ongoing	Creation of projects, activities to help business world gain appreciation for standards	N/A	Business community demonstrate awareness and understanding of standards
Open house type meetings for parents to share information with stakeholders	Ruth Webb Superintendents Network TEK KSBA	Local district budgets	4/1/10	On-going	Schedule of meetings conducted and sign-in sheets	Consistent message about standards will be communicated in group meetings	Community will demonstrate awareness and understanding of standards

Event Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
Community members' Webinar (Awareness)	Felicia C. Smith Chris Powell	Staff	12/15/09	3/30/10	Document created, posted and used in a variety of settings	N/A	Educators will understand fewer, clearer aspects of new core standard
Open house type webinar for educators to take one home	Felicia C. Smith Chris Powell	Staff	12/15/09	3/30/10	Webinar completed and attendee lists generated Subsequent participants will be tracked	Series will be archived for fidelity of duplication	Educators will understand the process in meetings and classroom ins and assessme other standar

Event Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:	
					Completion	Fidelity
<p>Webinar (Share the Process of Fidelity Archiving)</p> <p>Webinar to share the process and an example of standard using the process in meetings and classroom ins and assessme other standar</p>	<p>Dr. Aaron Thompson John DeAtley Felicia C. Smith Chris Powell</p>	<p>Staff</p>	<p>12/15/09</p>	<p>3/30/10</p>	<p>Webinar completed and attendee lists generated Subsequent participants will be tracked</p>	<p>Series will be archived for fidelity of duplication</p>

Event Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:	
					Completion	Fidelity
<p>Steering Unbridled Learning Follow-Up Strategies</p> <p>Steering Unbridled Learning Follow-Up Strategies</p>	<p>Dr. Aaron Thompson John DeAtley Felicia C. Smith Sally Sugg</p>	<p>Staff</p>	<p>12/1/09</p>	<p>March - On-going</p>	<p>Meeting schedule</p>	<p>N/A</p>
<p>Instructional Staff (ISN) to Instructional Staff, University staff, work, coops,</p>	<p>Dr. Aaron Thompson John DeAtley Felicia C. Smith Sally Sugg</p>	<p>\$50,000 RTTT or existing PD funds</p>	<p>12/1/09</p>	<p>March</p>	<p>Event planned and implemented Agenda information</p>	<p>N/A</p>

Event Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
Beshear, Dr. DeAtley and Billy Smith An event tied to Education in (C) and Learning Summit	Dr. Aaron Thompson John DeAtley Felicia C. Smith Sally Sugg	Staff	12/1/09	March	Event planned and implemented Agenda information	N/A	Educators will understand fewer, clearer aspects of new core standard
ards related ons for P-16 nce	Dr. Aaron Thompson John DeAtley Felicia C. Smith Sally Sugg	KDE/CPE Staff Coops Educational Partners	12/1/09	March	Event planned and implemented List of break-out sessions	N/A	Increased coll between P12 & Educators will understand fewer, clearer aspects of new core standard
college deans d arts & omote ong IHE staff	Dr. Robert King Dr. Aaron Thompson	N/A	1/15/09	March	Meeting agendas, email communications, newsletters to IHE Attendance tracking sheets	N/A	Increased coll between P12 & Number of att from IHE
ges and l convene to ne their role ng work of out (strategy)	Dr. Robert King Dr. Aaron Thompson	N/A	1/15/09	March	Meeting agendas, email communications, newsletters to IHE	N/A	Increased num attendees from

Event Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
6 ISN... ies will... y electronic... d webinars to... of interest and... s around... <b>strategy)</b>	Steering Committee (TBA)	Staff KDE/CPE budget for webinars	12/1/09	On-Going	Newsletters, webinars and activity agendas	Steering Committee oversight	Educators will understand fewer, clearer aspects of new core standard Increased collaboration between P12 &

Event Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
aching and... for educators... KHSAA... les) with intro... z and Pres... Beshear... of teachers... line modules... cts	Chris Powell	Staff/KET	April	April	Modules completed; attendance tracking	Series will be archived for fidelity of duplication	Surveys will s... teachers have... understanding... standards and... impact their c...
	Chris Powell	Staff	April	8/1/10	Attendance tracking reported to districts	Data sent to all districts will ensure state-wide consistency of implementation	Districts will c... all remaining... complete thes...

Event Step Sessions for IE	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
<p>up trainings eaning E &amp; aculty; &amp; KDE, these enhance staff of the how to align rds with post- iculum</p>	<p>Dr. Aaron Thompson Felicia C. Smith Starr Lewis Kevin Nolan</p>	<p>CPE/KDE staff University staff</p>	<p>April</p>	<p>May</p>	<p>Trainings completed and implemented Agenda information</p>	<p>Consistency of deliverers of content</p>	<p>Educators will understanding fewer, clearer aspects of new core standard</p>

Event Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
<p>of follow-up -12 staff (i.e. administrators) n with operatives, e for the next unpacking</p>	<p>Felicia C. Smith 8 Educational Cooperatives Directors</p>	<p>KDE/Coop staff School district budgets</p>	<p>May</p>	<p>June</p>	<p>Trainings completed and implemented Agenda information</p>	<p>Core Oversight Team will ensure consistency among networks through observation of trainings</p>	<p>Educators will understanding fewer, clearer aspects of new core standard</p>

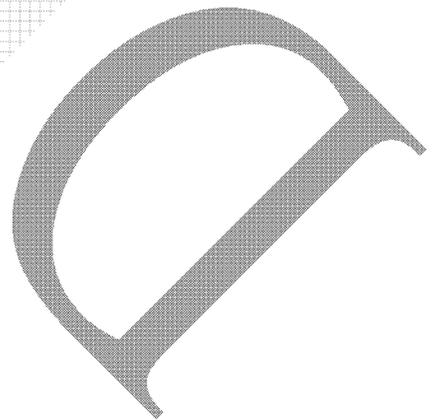
**Strategic goal – 21<sup>st</sup> Century Professionals**

**Strategic goal - P-16 educators and administrators will effectively implement new academic core standards in Math and Language Arts by August 2010**

**Strategy – New Standards and Assessments**

# Statewide Leadership Networks

Project Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators of
Oversight consultants, active or other	Felicia C. Smith Sally Sugg	N/A	12/15/09	1/15/10	List of Core Oversight Team members	N/A	All identified m active participat 2010-20011 sch
Protocol for of the	Felicia C. Smith OTL staff Assessment Training Institute Staff (e.g., Rick Stiggins)	Classroom Assessment for Student Learning (CASL) book and other resources Administrator's Guide to CASL book Instructional rounds books Skilled and experienced facilitators	February	February	Protocol document	N/A	Observations w consistency of t implementation deconstruction standards



Event Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators of
<p>Begin construction of standards with small teams</p> <p>Process with mathematics Language Arts who reviewed standards with 60 teacher personnel, and KDE</p>	<p>Karen Kidwell</p> <p>KDE staff</p>	<p>CASL book</p> <p>KDE protocol</p> <p>Other skilled content facilitators</p>	<p>February</p>	<p>April</p>	<p>Training planned and implemented</p>	<p>Observations will ensure consistency across training sites</p>	<p>Refined &amp; consistent process/protocol deconstruction standards with targets using CASL primary resources</p> <p>Identified teachers personnel, and have experience process as a leader have been trained the process and who may be lead facilitators</p> <p>Consistent (start) examples of learning targets for a few in mathematics English/Language</p>
<p>Final calibration of standards construction turning targets into standards for the Language Arts developing on-going process using the standards to construct standards as a way to process</p>	<p>Core Oversight Team</p>	<p>KDE staff</p> <p>Other skilled content facilitators</p>	<p>March</p>	<p>May</p>	<p>Training materials accessible on-line</p>	<p>N/A</p>	

Event Step	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators of
<p>Begin implementation of small teams</p> <p>Item of step #1 to be on-line leader use and</p>	<p>Clint Goins</p> <p>OTL-Division of Secondary &amp; Virtual Learning</p> <p>KET</p>	<p>Content experts and module designers</p>	<p>February</p>	<p>May</p>	<p>Document accessible on-line</p>	<p>N/A</p>	<p>On-line resources for district/school teams once the networks are established</p>

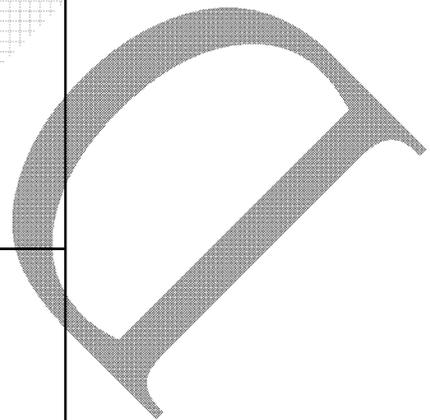
DRAFT

Identify and provide statewide network and professional organizations	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
Administer district/school surveys to principals who completed the 2008-09 Professional Learning Plan (LPD) facilitators' survey (ATS/ATI to determine current needs for professional learning of effective leaders)	Karen Kidwell Nawanna Privett	Web Access	12/15/09	1/15/10	Survey prepared and administered Results shared with Core Oversight Team	On-line access will ensure consistency of data collection	Assess needs for district/school leadership team develop targeted strategies for local/statewide implementation
Follow up with principals for leadership protocol implementation support works	Karen Kidwell Nawanna Privett OLSI and OTL staff Educational Partners	Assessment Training Institute Staff (e.g., Rick Stiggins)	April	May	Trainings planned and implemented Attendance data and sign-in sheets	Observations will ensure consistency across training sites	Support for district/schools implementation teams to prepare facilitation and support for content network  District/school greater facilitation/coaching in order to support learning in the networks and at level

Identify and provide statewide network and professional organizations	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
Annual leaders to for learning standards roll out, strategy, etc.	Felicia C. Smith Sally Sugg	Educational partners	April	May	Agenda and sign-in sheets Minutes of meeting	N/A	Addition of support/strand statewide professional content organization conferences  Opportunities to implement characteristics of quality teaching learning from K classrooms
Use of on-line district/school facilitation of	Chris Powell Content experts Assessment Training Institute Staff (e.g., Rick Stiggins); KET	Redistribution of existing professional development dollars	February	April	Resources available on KDE website	N/A	In-the-field support identified for districts/school coaches, cooper consultants, other educational age  On-line resources available for future

Activity	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
<p><b>Activity 8 (eight)</b>            Facilitator and administrator networks and delivery (tel)</p> <p>Meet with design team including the core – team</p> <p>Plans for partnership networks, protocols for design teams to quality &amp; consistency/consistency messages including the characteristics of effective design and delivery</p> <p>Processes/production of design &amp; designative elements leadership resources for partners and agents in the network</p>	<p>Felicia C. Smith            Sally Sugg</p>	<p>Trained KDE consultants and other skilled and trained content facilitators who have experience supporting and working with teachers and administrators around this work</p> <p>Training and support for facilitators working with Networks on an on-going basis (monthly)</p> <p>KET Consultants/Media Resources</p> <p>Skilled Hybrid Learning Consultants to design/deliver online support</p>	<p>February/            March</p>	<p>On-going monthly meeting with leadership networks</p> <p>2- day summer working event</p>	<p>Meeting agenda and sign-in sheets</p> <p>Meeting minutes</p>	<p>Surveys and observations will reveal consistency across sites</p>	<p>Quality control planning team facilitation, coordination and coherence leadership network provides support/resource hybrid components</p>

Priority 8 (eight) and network delivery (tel)	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
Facilitators for each administrator	Core Oversight Team	Content consultants and refocused KDE/KLA  Funding: Incentives (i.e. stipends, course buy-outs) for faculty to participate and remained committed	March	May	List of facilitators available on KDE website	Facilitators will represent state demographics	Facilitators who are committed to the implementation in participation in leadership network facilitate professional learning for district leadership team
One "consultant" to be the point of contact for related activities within KDE and other	Felicia C. Smith Sally Sugg	Skilled consultant with experience in organizing and working with multiple partners and with knowledge/experience in using the ETS/ATI CASL resources	1/15/10	2/10/10	Position posted and filled	N/A	A single point of contact within KDE who maintains oversight including alignment of resources, providing relevant resources using data to evaluate network success
Release RFA for local learning team focused on the work and implementation	Orin Simmerman	PD flow-through dollars (redirection of 20% of local funding)	April	May	RFA executed and grants awarded	Grants will represent state demographics	Once awarded, district/school learning teams implemented



Task	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
Task 8 (eight) Identify and network delivery (rel)	Network Consultant (TBA)	“Profile of ideal leads” shared with districts/schools – Support districts in identification based on individuals who have previously participated in the Leading Professional Development in Assessment training District Leadership	March	May	List of leads available on KDE website	Leads will represent state demographics	The ‘right people’ involved in the leadership capacity are willing to implement/lead implementation goals.
Identify contact area in each on colleges of Arts and consultants list of points very middle, high her ed	Network Consultant (TBA)	District Leadership	June	June	Lists of points of contact will be available on KDE website	Points of contact will represent state demographics	Ensure specific professional development resources/prod are equitably distributed to every school but higher education institutions across Commonwealth
Person and dership to most model for the new	Felicia C. Smith Network Consultant	Jefferson and Fayette Co. leadership	February	February	Meeting agenda	N/A	Jefferson and Fayette implement the

Project Title	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
<p>Project 8 (eight) District and Network Administrator networks and delivery (total)</p> <p>Administrator networks meet</p>	<p>Core Oversight Team</p> <p>Network Consultant (TBA)</p>	<p>Trained facilitators</p> <p>Funding: Redistribution of professional development funds to support the work of the networks and/or possibly RTTT funds</p> <p>District budgets</p>	<p>Begin June, 2010; monthly across the academic year; 2-day summer institutes</p>	<p>On-going; 3-5 years</p>	<p>Meeting agendas</p> <p>Sign-in sheets</p> <p>Products</p>	<p>Observations, products and surveys will reveal consistency in implementation</p>	<p>Teachers and administrators understand: a purpose and importance of deconstructing developing learning targets, assessments, the use of formative assessments, the characteristics of quality teaching learning. Specific Content Leader</p> <p>Networks will a district leaders deconstructing development of targets, understanding formative assessments implementation characteristics of quality teaching learning</p> <p>Administrators Networks will a administrator to revising state level evaluations include demonstration</p>

Item 8 (eight) Administrator networks and delivery (el)	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:			
					Completion	Fidelity	Indicators	
								characteristics of quality teaching and learning; work to align KTIP documents and other resources and characteristics of quality teaching and learning

Priority	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators
Priority 8 (eight) – Support for district and administrator networks and delivery (rel)	Core Oversight Team	KDE staff KTE	April	On-going; 3-5 years	Resources will be available on-line	All KY educators will have access to similar resources	Resources will be populated by the <i>instructional in software tool</i> and complement the networks as set up in districts
Priority 9 – Support of KDE field staff in learning and/or other agencies	Core Oversight Team	Funding to support positions (RTTT funds or cooperative districts pool funds to support position)	April	April	List of field staff and assignments will be available on-line	N/A	On-the-spot support district/school teams; cooperative other agency support expertise

Establish higher education networks or teams	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators of
Education Deans Partnership with identify lead participate in the	Dr. Aaron Thompson CPE/KDE College of Ed deans	Lead university faculty from initial small group standards work and faculty who have participated in previous Leading Professional Development in Assessment seminars  KACTE  Funding: Incentives or release time for faculty to participate in and share their expertise in the leadership and faculty networks	June	June	List of IHE faculty participating will be available on-line	All IHE will be represented	Establish structure faculty from across state to collaborate develop consistent strategies for implementation standards and a impacting leadership networks as well service education
Education Deans Faculty to training based deans	Dr. Aaron Thompson CPE/KDE and Arts & Sciences deans	Lead university faculty from initial small group standards work and faculty who have participated in previous Leading Professional Development in Assessment  Funding: Incentives or release time for faculty to participate in and share their expertise in the leadership and faculty networks	June	June	List of IHE faculty participating will be available on-line	All IHE will be represented	Establish structure faculty from across state to collaborate develop consistent strategies for implementation standards and a impacting leadership networks as well undergraduate

Establish higher networks or teams	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:	
					Completion	Fidelity
<p>on networks ms meet</p> <p>er expert nt area minimum of ulty, 5 Arts aculty, 5 s from ies (e.g., aries, other ng not to exceed per content with onsultants 3 year 1 and year after. ams will nate Bill 1 roll their will share higher ed lementing align with cluding</p>	<p>Core Oversight Team Dr. Aaron Thompson</p>	<p>Higher Ed faculty</p>	<p>August; meet quarterly</p>	<p>On-going</p>	<p>Meeting agendas Sign-in sheets Products</p>	<p>Observations, products and surveys will reveal consistency in implementation</p> <p>Establish a cadre faculty leads wh capacity to shar colleagues thro variety of mech (e.g., sessions a conferences tar higher ed) infor resources for implementation standards and t development of assessment cou arts and science</p> <p>Establish a cadre faculty leads wh capacity to shar colleagues thro variety of mech (e.g., sessions a conferences tar higher ed) infor resources for implementation standards and t development of assessment cou arts and science</p> <p>Development of clearinghouse f and expertise fo informing profes learning opport be shared with districts/school</p>

Regional service majors	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators of
ing team and professional ences for acators who regional	Dr. Aaron Thompson John DeAtley Felicia C. Smith Sally Sugg	KDE staff University Faculty	11/10	4/11	Event will be planned and implemented	Learning experiences will mirror practitioners' experiences	Two-three day conference outlined for the conference Communication out to all colleges education and education majors Registration site established and maintained Letters of attendance education majors Opportunities for service educators showcase and learn effective ways to implement the characteristics of quality teaching learning, including standards and etc.
icators participate in conference	Dr. Aaron Thompson John DeAtley Felicia C. Smith Sally Sugg	KDE staff University Faculty	5/11	5/11	Event will be planned and implemented	Learning experiences will mirror practitioners' experiences	Interested educators will be knowledgeable standards roll-out Noticeable decrease in phone calls to KDE misconceptions
all related to roll-out KDE website	Network Consult	SB 1 webpage OTL webpage Links to partner organization	2/10/10	On-going	Information will be available to all KY educators and interested citizens	Website will be regularly updated	

# Continuous Instructional Improvement Technology System

	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:	
					Completion	Fidelity
<p>Establish a software house that teachers and administrators could access at their own convenience</p>	Ruth Webb	Staff	12/1/09	2/10/10	RFP published Vendor secured	N/A
						Use of the software by teachers and administrators to measure the effectiveness of instructional technology on student performance

	Persons Responsible	Resources Required and Source of Resources	Start Date	End Date	Evaluation Components Evidence of:		
					Completion	Fidelity	Indicators of
<p>Establish a instructional technology to teachers to directly</p> <p>ment of content ware in order iculum, struction, arning and to f tools to ctional networks will process</p> <p>nsist of and ures for:</p> <p>pping; vertical alignment of rnative ceasures and rogress ls ; teacher and mal d formal rmation; ios; evaluating rofessional es for job- sional ncluding ing tools to ning of local</p>	Core Oversight Team	Region Coops IHE and local district staff	2/10	On-going	Catalogue of information available	Consistent replication of learning outcomes statewide	Use of the software enable teachers administrators quality instructional effective practice measure the effectiveness of teachers and impact on student performance

<b>Senate Bill 1 Deployment and Professional Learning Work Group</b>	
Amanda Hill	Nelson County School District
Amon W. Couch	KDE-Highly Skilled Educator
Ann Larson (for Starr Lewis)	University of Louisville
Annette Bridges	KDE-Division of Early Childhood
BJ Martin	KDE-Achievement Gap Coord.
Bob Fortney*	KDE-Division of Secondary & Virtual Learning
Bob Hackworth	KDE-Bureau of Learning & Results Services
Brenda McGown*	Kentucky Education Association
Carolyn Witt Jones	League of NewCities
Cherry Boyles	KDE-Division of Curriculum Development
Chris Powell	KDE-Division of Secondary & Virtual Learning
Cindy Gnadinger	Bellarmino University
Cindy Heine	Prichard Committee
Cindy Parker	KDE-Division of Curriculum Development
Connie Hodge	Eastern KY University
Dale Winkler	KY Association for Career & Technical Education
David Baird	KY School Boards Association
David Couch	KDE-Office of Education Technology
Diane Johnson	Lewis County School District
Dorie Combs	KBE/Eastern KY University
Debbie Daniels	KDE-Office of Leadership & School Improvement
Drew Muntz*	KDE-Division of Scholastic Assistance
Felicia Smith	KDE-Office of Teaching & Learning
Jim Rinehart	Eastern KY University
Joe Morgan	KY Association of Career & Technical Education.
Jodie Zeller	KDE-Div. of Educator Quality and Diversity
John DeAtley	Council on Postsecondary Education
Johnny Collett	KDE-Division of Exceptional Children
Karen Branham	KDE-Highly Skilled Educator
Karen Kidwell	KDE-Division of Curriculum Development
Karen Nash*	Education Cabinet-Career & Technical Education
Kathryn Polmanteer	Morehead State University
Kathy Gunn	Morehead State University
Kim Zeidler-Watters*	University of Kentucky
Kristie Fleming	Northern KY University
Lee Nimicks	Council on Postsecondary Education
Leon Mooneyhan	Ohio Valley Educational Cooperative
Lisa Gross	KDE-Division of Communications
Liz Erwin (for Ronda Harmon)	KY Association of School Councils
Liza Holland	Fayette County School District
Marcia Seiler	Legislative Research Commission

Marilyn Troupe	Education Professional Standards Board
Mary Ann Blankenship	KY Education Association
Michael Dailey	KDE-Division of Educator Quality & Diversity
Michael Flory	KDE-Bureau of Learning & Results Services
Michael Miller	KDE-Division of Curriculum Development
Mike Kennedy	Fayette County School District
Mike Stone	KY Association for Career & Technical Education
Nancy Carpenter	Kentucky Educational Television
Nancy Lovette	Murray State University
Nawanna Privett	KDE-Office of Leadership & School Improvement
Orin Simmerman	KDE-Division of Leadership & Instructional Support
Pat Trotter	KDE-Office of Leadership & School Improvement
Polly Page	Northern KY Cooperative for Education Services
RaAnn Miller*	KDE-Career & Technical Education
Rebecca Blessing	KDE-Division of Communications
Rhonda Sims*	KDE-Division of Assessment Support
Rhonda Harmon	KY Association of School Councils
Robert Brown	Education Professional Standards Board
Robin Chandler	KDE-Office of Teaching & Learning
Robin Hill	KDE-Division of Curriculum Development
Sandy Rutledge	Kentucky Parent Teacher Association
Tina Tipton	Ohio Valley Educational Cooperative
Tom Guskey	University of Kentucky
Wilson Sears	KY Association of School Superintendents

## English/Language Arts Common Core Standards Work Team

NAME	ROLE	DISTRICT/SCHOOL/BUSINESS	KEA
Artavia Acklin	EL teacher	Shelby Co. (Clear Creek EL)	X
Janice Almasi	Higher Ed.	University of Kentucky	
Michelle Barnett	EL teacher (Sp.Ed.)	Mercer Co. (Harlow EL)	
Claire Batt	EL teacher	Fayette Co. (Athens-Chilesburg EL)	
Carol Brooks	Early Childhood	Berea Early Childhood Regional Trng Ctr	
Maggie Brown	Higher ed.	KCTCS	
Danielle Burke	HS teacher	Danville Ind. (Danville HS)	
Missy Callaway	HS teacher	Jefferson Co. (Butler HS)	
Debbie Curry	Director of Sp. Ed.	Elizabethtown Ind. (central office)	
Karen Edwards	MS teacher	Boyle Co. (Boyle Co. MS)	
Maria Flynn	Higher ed.	KCTCS	
Alysson Hamilton-McIntire	Business/industry	Kentucky Chamber	
DeVona Hickerson	Title I Coord/Reading Cons.	Spencer (central office)	X
Kelley Johnstone	EL teacher	Oldham Co. (LaGrange EL)	
Heather Labarbara	MS teacher	Jessamine Co. (West Jessamine MS)	
Ben Lusk	Director of Teaching&Lng	Ft. Thomas Ind. (central office)	
Gary McCormick	Literacy Consultant	Kenton Co. (central office)	
Anita McNeal	HS teacher (Sp.Ed.)	Rowan Co. (Rowan Co. HS)	X
Stacy Noah	Principal	Harlan Ind. (Harlan HS)	
Brenda Overturf	Higher Ed.	University of Louisville	
Rosemary Perry	HS teacher	Hardin Co. (Central Hardin HS)	
Pamela Petty	Higher Ed.	Western Kentucky University	
Cindy Price	Business/industry	Jewish Hospital	
Mary Shortridge	Higher ed.	KCTCS	
Paula Stafford	Asst. Principal	Rowan Co. (Rowan Co. MS)	
Sandra Stapleton	MS teacher	Allen Co. (Allen Central MS)	X
Erin Stephens	HS teacher	Somerset Ind. (Somerset HS)	X
Mike Stone	Business/industry	Anthem	
Jean Wolph	Higher Ed.	University of Louisville	

Others assigned to team:

Annie Rooney French – KDE – Preschool  
 Laura Wathen – KDE – Early Childhood  
 Kathy Mansfield  
 April Pieper – Secondary Ed.

## Mathematics Common Core Standards Work Team

NAME	ROLE	DISTRICT/SCHOOL/BUSINESS	KEA
Jeannette Barreiro	MS teacher	Daviess Co. (College View MS)	X
Jeff Blythe	EL teacher	Monroe Co. (Gamaliel EL)	X
Tammy Booth	MS teacher (Sp.Ed.)	Clark Co. (Conkwright MS)	X
Bill Bush	Higher Ed.	University of Louisville	
Dana Calland	Higher Ed.	KCTCS	
Bobbie Fryman	MS teacher	Franklin Co. (Bondurant MS)	
Sonia Fullwood	MS teacher	Fayette Co. (Bryan Station MS)	
Alice Gabbard	Higher Ed. (KCM)	Northern Kentucky University	
Greg Gierhart	Early Childhood	Murray State University	
Chris Girard	HS teacher	Kenton Co. (Simon Kenton HS)	
Jim Hamm	EL teacher	Carter Co. (Prichard EL)	X
Seth Hunter	HS teacher	Jefferson Co. (Male HS)	X
Charma Linville	HS	Fayette Co. (central office)	
Lisa Lokesak	EL teacher	Boone Co. (New Haven EL)	
Linda Mayhew	Higher Ed.	KCTCS	
Jeremy Miller	HS teacher	Lee Co. (Lee Co. HS)	
Matt Moore	Sp. Ed. Director	Jessamine Co. (central office)	
Charlie Newquist	MS teacher	Jessamine Co. (East Jessamine MS)	X
Bob Pervine	Higher Ed.	Murray State University	
Marsha Reddick	HS teacher	Adair Co. (Adair Co. HS)	
Vicki Shelton	EL teacher	Owensboro Ind. (Cravens EL)	
Daniel Stauft	Business/Industry	Toyota	
Jon Thomas	Higher Ed. (KCM)	Northern Kentucky University	
Mike Waters	Higher Ed. (KCM)	Northern Kentucky University	
Bethany Watson	EL teacher	Henderson Co. (Niagara EL)	
Elaine Woolley	Asst. Principal	Erlanger-Elsmere Ind. (Tichenor MS)	
Demetrio Zourarakis	Business/Industry	Commonwealth Office of Technology	

Others assigned to team:

Janis Logsdon – Early Childhood

Amy Patterson – Secondary Ed.

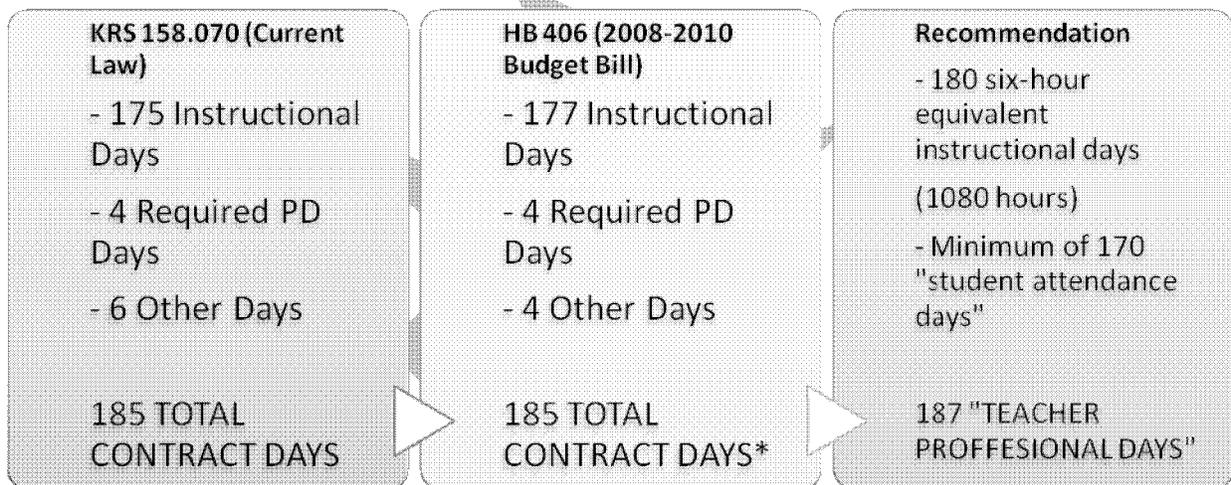
David Bolen - Outreach

## **KASA Recommended Changes to Calendar (KRS 158.070) and Professional Development (KRS 156.095) Statutes**

Over the last several years there have been numerous events (weather emergencies, building emergencies, etc.) that have affected local districts ability to effectively manage their school calendars. This created a need to review the statute regarding school calendars. The result was a bill enacted in the 2009 General Assembly (HB 322) to address these events. In addition, HB 406 (the 2008-2010 Budget Bill) sought to address concerns over the amount of instructional time provided to students. At the same time, changes at the national, state, and local levels regarding the most effective way to deliver professional development have come in conflict with Kentucky's professional development system (see page 3).

The Kentucky Association of School Administrators (KASA) has developed a series of recommended changes to the two statutes that relate to the school calendar and to professional development. It is hoped that these recommended changes will be presented in the 2010 Legislative. These recommendations should assist our school districts in addressing the areas of concern listed above.

### **The Primary Recommendation**



\*HB 406 did not increase the number of days in the school term. In practice, however, most districts already added two days and have 187 day school terms.

### **Key Points** KRS 158.070

This proposal provides for 180 six-hour equivalent instructional days (1080 instructional hours) in the school calendar and requires a minimum of 170 "student attendance days". This will allow districts to be flexible by allowing for a range of calendar changes from adding instructional days to reducing the number of days (but not time) and giving teachers more days for professional learning.

Under this recommendation, each district would return to the flexibility given to them in KRS 158.070 to deal with "unforeseen circumstances" while also addressing the desire to increase the amount of instructional time.

It would eliminate the need for the language in HB 406 and HB 322.

This recommendation also eliminates a specific number of professional development days in the calendar to allow for greater flexibility for the district.

This recommendation is critical for establishing the kinds of professional learning experiences for teachers and administrators necessary for improving their performance.

For the first time, these changes provide specific definitions for “student attendance day”, “teacher professional day” and “teacher professional year”.

In exchange for the removal of the four (4) PD days in the calendar the teacher will have a set “teacher professional day” that has the professional learning time built in. The benefits are numerous and include making professional learning on-going and continuous so that it occurs multiple times each week, thus significantly increasing the amount of time spent in professional learning experiences.

Most importantly, this causes a shift in mindset that moves us to compliance with the new definition. We must move to a system where professional learning is considered part of a teacher’s regular professional duties and professional day. It can no longer be a separate “thing” that teachers do on certain days in their contract. These changes will create collegial opportunities for teachers that will have the most positive effect on student achievement. Professional learning will now take place primarily during the regular teacher professional days in the calendar at times when a teacher is not providing classroom instruction. That means before school, after school or during school on designated planning times.

#### KRS 156.095

Change in vocabulary by moving from “professional development” to “professional learning”. This is necessary because the current vocabulary is connected to the traditional way of thinking about professional learning.

Requires school districts to have specific policies about how they will provide the leadership necessary to move towards a more school based model of professional learning and also how they will evaluate the professional learning of their teachers as to its effect on improving their effectiveness in teaching and thus increase learning.

Modernizes the function of the Kentucky Department of Education to reflect our role as support and assistance to professional learning coordinators.

**Amendment to Section 9101(34) of the  
Elementary and Secondary Education Act (ESEA)  
As Reauthorized by the No Child Left Behind Act of 2001  
Sen. Jack Reed – Rhode Island, Sponsor  
Developed by the National Staff Development Council**

(34) **PROFESSIONAL DEVELOPMENT** – The term ‘professional development’ means a comprehensive, sustained and intensive approach to improving teachers’ and principals’ effectiveness in raising student achievement –

- (A) Professional development fosters collective responsibility for improved student performance and must be comprised of professional learning that –
- (1) is aligned with rigorous state student academic achievement standards, as well as related local education agency and school improvement goals;
  - (2) is conducted among educators at the school and facilitated by well-prepared school principals and/or, school-based professional development coaches, mentors, master teachers, or other teacher leaders;
  - (3) primarily occurs several times per week among established teams of teachers, principals, and other instructional staff members where the teams of educators engage in a continuous cycle of improvement that –
    - (i) evaluates student, teacher, and school learning needs through a thorough review of data on teacher and student performance;
    - (ii) defines a clear set of educator learning goals based on the rigorous analysis of the data;
    - (iii) achieves the educator learning goals identified in subsection (A)(3)(ii) by implementing coherent, sustained, and evidenced-based learning strategies, such as lesson study and the development of formative assessments, that improve instructional effectiveness and student achievement;
    - (iv) provides job-embedded coaching or other forms of assistance to support the transfer of new knowledge and skills to the classroom;
    - (v) regularly assesses the effectiveness of the professional development in achieving identified learning goals, improving teaching, and assisting all students in meeting challenging state academic achievement standards;
    - (vi) informs ongoing improvements in teaching and student learning; and
    - (vii) that may be supported by external assistance.
- (B) The process outlined in subsection (34)(A) may be supported and strengthened by activities such as courses, workshops, institutes, networks and conferences that:
- (1) must address the learning goals and objectives established for professional development by educators at the school level;
  - (2) advance the ongoing, school-based professional development; and
  - (3) are provided by for-profit and nonprofit entities outside the school such as universities, education service agencies, technical assistance providers, networks of content-area specialists, and other education organizations and associations.

1 **158.070 School term – Professional learning [~~development~~] -- Holidays and days closed --**  
2 **Continuing education for certain students -- Breakfast program – Missed school days due**  
3 **to emergencies and service credit.**

4 (1) “Student Attendance Day” means any day that students are at school. It encompasses their  
5 arrival time on each day so designated until they are dismissed each day. Each student  
6 attendance day may include, but is not limited to, classroom instruction, duty-free lunch for  
7 teachers, teacher planning time and instructional breaks for students.

8 (2) “Teacher Professional Day” means any day teachers report to work. The teacher professional  
9 day encompasses the time teachers report to work until the time their daily responsibilities are  
10 complete. Any time during a teacher professional day that is not spent supervising students shall  
11 be used for professional learning activities described in subsection six (6) of this section or for  
12 other job-related duties. Each local board of education shall establish the length of each teacher  
13 professional day.

14 (3) [(4)] The minimum school term shall be one hundred eighty-seven (187) teacher professional  
15 days. [~~one hundred eighty five (185) days, including no less than the equivalent of one hundred~~  
16 seventy five (175) six (6) hour instructional days. A board of education may extend its term  
17 beyond the minimum term.] All school districts shall operate on a fiscal year beginning July 1  
18 and ending June 30.

19 (4) Each school district shall provide the equivalent of one hundred eighty (180) six-hour days of  
20 instruction. Included in this instructional time will be a minimum of one hundred seventy (170)  
21 student attendance days. The use of the remaining days in the school term shall be determined

1 by the local board of education. A board of education may extend its term beyond the minimum  
2 term.

3 (5) [(2)] The local board of education, upon recommendation of the local school district  
4 superintendent, shall adopt a school calendar for the upcoming school year that establishes the  
5 opening and closing dates of the school term, beginning and ending dates of each school month,  
6 student attendance days, and days on which schools shall be dismissed. The local board may  
7 schedule days for breaks in the school calendar that shall not be counted as a part of the  
8 minimum school term. If a board of education amends its calendar after its adoption, due to an  
9 emergency, it may lengthen or shorten any remaining student attendance days by thirty (30)  
10 minutes or more, as it deems necessary, provided the amended calendar complies with the  
11 requirements of subsection (4) of this section.

12 ~~[(5) [(3)] Any local board of education operating its schools on a year round school program~~  
13 ~~shall conform with administrative regulations promulgated and adopted by the Kentucky~~  
14 ~~Board of Education upon the recommendation of the commissioner of education, which~~  
15 ~~regulations must be in conformity with the following criteria:~~

16 ~~(a) The year round school program shall be operated on a fiscal year beginning July 1 and ending~~  
17 ~~June 30;~~

18 ~~(b) A pupil's required attendance in school shall be for at least the minimum instructional term;~~  
19 ~~and~~

20 ~~(c) No teacher shall be required to work [teach] more than the minimum teacher contract [term]~~  
21 ~~during the school year.]~~

1 (6) [(4)] (a) All teachers shall receive regular and continuous effective professional learning  
2 experiences during the regular teacher professional year. The majority of the professional  
3 learning shall occur as part of the teacher's regular daily work schedule. Professional learning  
4 shall occur primarily during regular teacher professional days and shall take place at the school  
5 site. This professional learning shall consist of collaborative professional learning and collegial  
6 planning activities that shall include, but not be limited to, the analysis of student work,  
7 development of common assessments for similar content areas or grade levels, collaborative  
8 lesson planning, action research and other activities designed to improve teacher and  
9 administrator effectiveness in raising student achievement for all students.

10 (b) Professional learning may occur during any part of a teacher professional day that the teacher  
11 is not involved in direct supervision of students. Each teacher shall also be allowed, with prior  
12 approval, to attend workshops or other conferences designed to support the professional learning  
13 that occurs at the school site.

14 ~~[(a) Each local board of education shall use four (4) days of the minimum school term for~~  
15 ~~professional development and collegial planning activities for the professional staff without the~~  
16 ~~presence of pupils pursuant to the requirements of KRS 156.095. At the discretion of the~~  
17 ~~superintendent, one (1) day of the school term [of professional development may be used] for~~  
18 ~~district wide activities and for training that is mandated by federal or state law. The use of three~~  
19 ~~(3) days shall be planned by each school council, except that the district is encouraged to provide~~  
20 ~~technical assistance and leadership to school councils to maximize existing resources and to~~  
21 ~~encourage shared planning.~~

1 ~~(b) A local board may approve a school's flexible professional development plan that permits~~  
2 ~~teachers or other certified personnel within a school to participate in professional development~~  
3 ~~activities outside the days scheduled in the school calendar or the regularly scheduled hours in~~  
4 ~~the school work day and receive credit towards the four (4) day professional development~~  
5 ~~requirement within the minimum one hundred eighty five (185) days that a teacher shall be~~  
6 ~~employed.~~

7 ~~1. A flexible schedule option shall be reflected in the school's professional development~~  
8 ~~component within the school improvement plan or consolidated plan and approved by the local~~  
9 ~~board. Credit for approved professional development activities may be accumulated in periods of~~  
10 ~~time other than full day segments.~~

11 ~~2. No teacher or administrator shall be permitted to count participation in a professional~~  
12 ~~development activity under the flexible schedule option unless the activity is related to the~~  
13 ~~teacher's classroom assignment and content area, or the administrator's job requirements, or is~~  
14 ~~required by the school improvement or consolidated plan, or is tied to the teacher's or the~~  
15 ~~administrator's individual growth plan. The supervisor shall give prior approval and shall~~  
16 ~~monitor compliance with the requirements of this paragraph. In the case of teachers, a~~  
17 ~~professional development committee or the school council by council policy may be responsible~~  
18 ~~for reviewing requests for approval.]~~

19 ~~(7) (a) [(e)]~~ The local board of each school district may use up to a maximum of four (4) days of  
20 the minimum school term for holidays; provided, however, any holiday which occurs on  
21 Saturday may be observed on the preceding Friday.

1 ~~[(d) Each local board may use two (2) days for planning activities without the presence of~~  
2 ~~pupils.]~~

3 (b) ~~[(e)]~~ Each local board may use the number of days deemed necessary for:

4 1. National or state emergency ~~[disaster]~~ or mourning when proclaimed by the President of the  
5 United States or the Governor of the Commonwealth of Kentucky;

6 2. Local emergency ~~[disaster]~~ which would endanger the health or safety of children;

7 and

8 3. Mourning when so designated by the local board of education and approved by the Kentucky  
9 Board of Education upon recommendation of the commissioner of education.

10 (8) ~~[(5)]~~ The Kentucky Board of Education, upon recommendation of the commissioner of  
11 education, shall adopt administrative regulations governing the use of school days, including  
12 days missed from the regular school day as a result of local emergency ~~[disaster]~~, as defined in  
13 subsection 7(b)(2) ~~[(4)(e)2]~~ of this section, and regulations setting forth the guidelines and  
14 procedures to be observed for the approval of the days utilized for the opening and closing of  
15 school ~~[and the days utilized for professional development and planning activities for the~~  
16 ~~professional staff.]~~

17 (9) ~~[(6)]~~ (a) In setting the school calendar, school may be closed for two (2) consecutive days for  
18 the purpose of permitting professional school employees to attend statewide professional  
19 meetings. These two (2) days for statewide professional meetings may be scheduled to begin  
20 with the first Thursday after Easter, or upon request of the statewide professional education  
21 association having the largest paid membership, the commissioner of education may designate

1 alternate dates. ~~If schools are scheduled to operate during days designated for the statewide~~  
 2 ~~professional meeting, the school district shall permit teachers who are delegates to attend as~~  
 3 ~~compensated professional leave time and shall employ substitute teachers in their absence.~~  
 4 Districts ~~[The commissioner of education]~~ shall designate one (1) additional day during the  
 5 school year when schools may ~~shall~~ be closed to permit professional school employees to  
 6 participate in regional or district professional meetings. ~~[These three (3) days so designated for~~  
 7 ~~attendance at professional meetings shall not be counted as a part of the minimum school term.]~~  
 8 If schools are scheduled to operate during days designated for these professional meetings, the  
 9 school district shall permit teachers who are delegates to attend as compensated professional  
 10 leave time and shall employ substitute teachers in their absence.  
 11 (b) No district shall designate the day of a regular election or the day of a primary election as a  
 12 student attendance day. ~~[School shall be closed on the day of a regular election and on the day of~~  
 13 ~~a primary election, and those days may be used for professional development activities,~~  
 14 ~~professional meetings, or parent teacher conferences.]~~  
 15 (c) [(b)] All schools shall be closed on the third Monday of January in observance of the  
 16 birthday of Martin Luther King, Jr. This date shall not be designated as a student attendance day  
 17 or a teacher professional day. ~~[Districts may:~~  
 18 ~~1. Designate the day as one (1) of the four (4) holidays permitted under subsection (5)(a) [(4)(c)]~~  
 19 ~~of this section; or~~  
 20 ~~2. Not include the day in the minimum school term specified in subsection (1) of this section.]~~  
 21 (10) [(7)] Students applying for excused absence for attendance at the Kentucky State Fair shall  
 22 be granted one (1) day of excused absence.

1 (11) [~~(8)~~] Schools shall provide continuing education for those students who are determined to  
2 need additional time to achieve the outcomes defined in KRS 158.6451, and schools shall not be  
3 limited to the minimum school term in providing this education. Continuing education time may  
4 include extended days, extended weeks, or extended years. A local board of education may adopt  
5 a policy requiring its students to participate in continuing education. The local policy shall set  
6 out the conditions under which attendance will be required and any exceptions which are  
7 provided. The Kentucky Board of Education shall promulgate administrative regulations  
8 establishing criteria for the allotment of grants to local school districts and shall include criteria  
9 by which the commissioner of education may approve a district's request for a waiver to use an  
10 alternative service delivery option, including providing services during the school day on a  
11 limited basis. These grants shall be allotted to school districts to provide instructional programs  
12 for pupils who are identified as needing additional time to achieve the outcomes defined in KRS  
13 158.6451. A school district that has a school operating a model early reading program under  
14 KRS 158.792 may use a portion of its grant money as part of the matching funds to provide  
15 individualized or small group reading instruction to qualified students outside of the regular  
16 classroom during the school day.

17 (12) [~~(9)~~] Notwithstanding any other statute, each school term shall include no less than the  
18 equivalent of the minimum number of student attendance days required by this section.

19 (13) [~~(10)~~] Notwithstanding the provisions of KRS 158.060(3) and the provisions of subsection  
20 (3) [~~(4)~~] of this section, a school district shall arrange bus schedules so that all buses arrive in  
21 sufficient time to provide breakfast prior to the student attendance day. In the event of an  
22 unforeseen bus delay, the administrator of a school that participates in the Federal School

1 Breakfast Program may authorize up to fifteen (15) minutes of the [~~six (6) hour~~] student  
2 attendance day if necessary to provide the opportunity for children to eat breakfast not to exceed  
3 eight (8) times during the school year within a school building.

4 (14) [~~(11)~~] Notwithstanding any other statute to the contrary, the following provisions shall apply  
5 to a school district that misses school days due to emergencies, including weather-related  
6 emergencies:

7 (a) A certified school employee shall be considered to have fulfilled the minimum one hundred  
8 eighty-seven (187) [~~eighty-five (185)~~] day contract with a school district under KRS 157.350 and  
9 shall be given credit for the purpose of calculating service credit for retirement under KRS  
10 161.500 for certified school personnel if:

11 1. State and local requirements under this section are met regarding the [~~equivalent of the~~]  
12 number of teacher professional days and holidays [~~student attendance days, professional~~  
13 ~~development days and days for planning activities without the presence of pupils~~]; and

14 2. The provisions of the district's school calendar to make up school days missed due to any  
15 emergency, as approved by the Kentucky Department of Education, including but not limited to  
16 a provision for additional instructional time per day, are met.

17 (b) Additional time worked by a classified school employee shall be considered as equivalent  
18 time to be applied toward the employee's contract and calculation of service credit for classified  
19 employees under KRS 78.615 if:

20 1. The employee works for a school district with a school calendar approved by the Kentucky  
21 Department of Education that contains a provision that additional instructional time per day shall  
22 be used to make up full days missed due to an emergency;

1 2. The employee's contract requires a minimum six (6) hour work day; and

2 3. The employee's job responsibilities and work day are extended when the instructional time is  
3 extended for the purposes of making up time.

4 (c) Classified employees who are regularly scheduled to work less than six (6) hours per day and  
5 who do not have additional work responsibilities as a result of lengthened student attendance  
6 days shall be excluded from the provisions of this subsection. These employees may be assigned  
7 additional work responsibilities to make up service credit under KRS 78.615 that would be lost  
8 due to lengthened student attendance days.

9 **(15) The Kentucky Board of Education shall promulgate an administrative regulation to**  
10 **establish the reporting structure for collecting data on the quality and effectiveness of**  
11 **professional learning activities for educators.**

12 **Effective:** June 20, 2005

13 **History:** Amended 2005 Ky. Acts ch. 178, sec. 1, effective June 20, 2005. -- Amended  
14 2004 Ky. Acts ch. 89, sec. 1, effective April 6, 2004. -- Amended 2002 Ky. Acts  
15 ch. 131, sec. 1, effective July 15, 2002; and ch. 169, sec. 1, effective July 15, 2002. --  
16 Amended 2001 Ky. Acts ch. 134, sec. 1, effective June 21, 2001. -- Amended 2000  
17 Ky. Acts ch. 261, sec. 1, effective July 14, 2000; and ch. 527, sec. 13, effective July  
18 14, 2000. -- Amended 1998 Ky. Acts ch. 580, sec. 4, effective July 15, 1998; and  
19 ch. 609, sec. 2, effective July 15, 1998. -- Amended 1996 Ky. Acts ch. 20, sec. 2,  
20 effective July 15, 1996; ch. 195, sec. 25, effective July 15, 1996; and ch. 362, sec. 6,  
21 effective July 15, 1996. -- Amended 1994 Ky. Acts ch. 394, sec. 22, effective July  
22 15, 1994; and ch. 464, sec. 1, effective July 15, 1994. -- Amended 1992 Ky. Acts  
23 ch. 398, sec. 1, effective July 14, 1992. -- Amended 1990 Ky. Acts ch. 476, Pt. I,  
24 sec. 27, effective July 13, 1990. -- Amended 1986 Ky. Acts ch. 373, sec. 1, effective  
25 July 15, 1986. -- Amended 1984 Ky. Acts ch. 359, sec. 2, effective July 13, 1984. --

1 Amended 1978 Ky. Acts ch. 306, sec. 2, effective March 30, 1978. -- Amended 1976  
2 Ky. Acts ch. 209, sec. 1. -- Amended 1974 Ky. Acts ch. 265, sec. 5. -- Amended  
3 1972 Ky. Acts ch. 372, sec. 2. -- Amended 1966 Ky. Acts ch. 29, sec. 1 (1) and (2);  
4 and ch. 255, sec. 150. -- Amended 1964 Ky. Acts ch. 6, sec. 1; and ch. 133, sec. 1. --  
5 Amended 1962 Ky. Acts ch. 244, Art. VII, sec. 2. -- Amended 1952 Ky. Acts  
6 ch. 104, sec. 1. -- Recodified 1942 Ky. Acts ch. 208, sec. 1, effective October 1,  
7 1942, from Ky. Stat. sec. 4370-7.

8 **Legislative Research Commission Note (1/29/2002).** The words "upon request of the  
9 statewide professional education association having the" were inadvertently omitted  
10 from subsection (6)(a) of this section when it was amended by 2001 Ky. Acts ch.  
11 134, sec. 1. These words have been restored to the section by the reviser of statutes  
12 under KRS 7.136 and 446.280.

13 **Legislative Research Commission Note (6/21/2001).** A reference to "subsection (3)(c)"  
14 in subsection (6)(b)1. of this statute has been changed in codification to "subsection  
15 (4)(c)" under KRS 7.136(1)(e) and (h). In 2001 Ky. Acts ch. 134, sec. 1, the existing  
16 subsection (3) was renumbered as subsection (4), but an internal reference to that  
17 subsection in the existing language of this statute was overlooked.

18 **2006-2008 Budget Reference.** See State/Executive Branch Budget, 2006 Ky. Acts ch.  
19 252, Pt. I, D.4.(16), at 1172; and State/Executive Branch Budget Memorandum,  
20 2006 Ky. Acts ch. 257, at 2486 (Final Budget Memorandum, at 799  
21  
22  
23  
24  
25  
26  
27

1 **156.095 Professional learning [~~development~~] programs -- Professional growth**  
2 **[~~development~~] coordinator – [~~Long-term~~] improvement plans – [~~Electronic consumer~~**  
3 **~~bulletin board~~] -- Training to address needs of students at risk -- Teacher academics.**

4 (1) The Kentucky Department of Education shall be responsible for providing technical  
5 assistance and support to local school districts to ensure each district has high quality and  
6 effective professional learning experiences for all staff. [~~establish, direct, and maintain a~~  
7 ~~statewide program of professional development to improve instruction in the public schools.~~]

8 (2) Each local school district superintendent shall appoint a certified school employee to fulfill  
9 the role and responsibilities of a professional growth [~~development~~] coordinator who shall  
10 disseminate professional learning [~~development~~] information to schools and personnel. Upon  
11 request by a school council or any employees of the district, the coordinator shall provide  
12 technical assistance to the council or the personnel that may include assisting with needs  
13 assessments, analyzing school data, planning and evaluation assistance, organizing districtwide  
14 programs requested by school councils or groups of teachers, or other coordination activities.

15 (a) The manner of appointment, qualifications, and other duties of the professional growth  
16 [~~development~~] coordinator shall be established by Kentucky Board of Education through  
17 promulgation of administrative regulations.

18 (b) The local district professional growth [~~development~~] coordinator, in partial fulfillment of the  
19 requirements of KRS 156.101, shall participate in annual professional learning approved by the  
20 Kentucky Department of Education [~~annual training program~~] for local school district  
21 professional learning [~~development~~] coordinators. Approval of this job specific professional  
22 learning will be awarded for experiences that [~~The training program~~] may include, but not be

1 limited to, the demonstration of various approaches to needs assessment and planning; strategies  
2 for implementing [~~long-term,~~] school-based professional learning [~~development~~]; strategies for  
3 strengthening teachers' roles in the planning, development, and evaluation of professional  
4 learning [~~development~~]; and demonstrations of effective professional learning communities  
5 [~~model professional development programs. The training shall include information about teacher~~  
6 ~~learning opportunities relating to the core content standards. The Kentucky Department of~~  
7 ~~Education shall regularly collect and distribute this information.~~]

8 (3) The majority of professional learning experiences shall occur during regular teacher  
9 professional days and shall be considered as one of the regular job responsibilities of each  
10 teacher and administrator.

11 (4) (a) School districts shall develop policies and procedures to ensure that all certified teachers  
12 receive regular and continuous professional learning experiences and shall ensure that all  
13 professional learning is related to the needs addressed in local school improvement plans,  
14 professional learning team plans and the individual growth needs of each teacher.

15 (b) The professional learning policies and procedures adopted by the local board of education  
16 shall include the process for the implementation of effective professional learning experiences by  
17 school and district leadership. In addition the policies shall provide a process for the evaluation  
18 of professional learning experiences for their role in improving teacher and administrator  
19 effectiveness in raising student achievement for all students.

20 (5) [~~3~~] Each school council shall work collaboratively with local district personnel to [~~shall~~]  
21 provide professional learning [~~development~~] experiences [~~The [Kentucky Department of~~  
22 Education shall provide or facilitate optional, professional development programs for certified

1 ~~personnel throughout the Commonwealth that are based on the statewide needs of teachers,~~  
2 ~~administrators, and other education personnel. Programs may include classified staff and parents~~  
3 ~~when appropriate. Programs offered or facilitated by the department shall be at locations and~~  
4 ~~times convenient to local school personnel and shall be made accessible through the use of~~  
5 ~~technology when appropriate. They shall include programs] that address the goals for Kentucky~~  
6 schools as stated in KRS 158.6451, including reducing the achievement gaps as determined by  
7 an equity analysis of the disaggregated student performance data from the state assessment  
8 program developed under KRS 158.6453; engage educators in effective learning processes and  
9 foster collegiality and collaboration; and provide support for staff to incorporate newly acquired  
10 skills into their work through practicing the skills, gathering information about the results, and  
11 reflecting on their efforts. Professional learning [~~development~~] experiences [~~programs~~] shall be  
12 made available to teachers based on their needs which shall include, but not be limited to, focus  
13 on the following areas:

- 14 (a) Strategies to reduce the achievement gaps among various groups of students and to provide  
15 continuous progress;
- 16 (b) Curriculum content and methods of instruction for each content area including differentiated  
17 instruction;
- 18 (c) School-based decision making;
- 19 (d) Assessment literacy;
- 20 (e) Integration of performance-based student assessment into daily classroom instruction;
- 21 (f) Nongraded primary programs;
- 22 (g) Research-based instructional practices;

- 1 (h) Instructional uses of technology;
- 2 (i) Curriculum design to serve the needs of students with diverse learning styles and skills and of  
3 students of diverse cultures;
- 4 (j) Instruction in reading, including phonics, phonetic awareness, comprehension, fluency, and  
5 vocabulary;
- 6 (k) Educational leadership; and
- 7 (l) Strategies to incorporate character education throughout the curriculum.
- 8 (6) [(4)] The department shall, in collaboration with postsecondary education institutions,  
9 education cooperatives and consortia, professional education organizations and other  
10 professional learning providers, assist local district personnel with the planning and development  
11 of effective professional learning programs. The department shall provide technical assistance to  
12 assist school personnel in assessing the impact of professional learning [development] on their  
13 instructional practices and student learning.
- 14 (7) [(5)] The department shall assist districts and school councils with the development of [long-  
15 term] school, professional learning team, and district improvement plans that include multiple  
16 strategies for professional learning [development] based on the assessment of needs at the school  
17 level.
- 18 (a) Professional learning [development] strategies may include, but are not limited to,  
19 participation in subject matter academies, teacher networks, training institutes, workshops,  
20 seminars, and study groups; collegial planning; action research; mentoring programs; appropriate  
21 university courses; and other forms of professional learning [development].

1 (b) ~~[In planning the use of the four (4) days for professional development under KRS 158.070,]~~  
2 School [school] councils and districts shall give priority to experiences [programs] that increase  
3 teachers' understanding of curriculum content and methods of instruction appropriate for each  
4 content area based on individual school plans, professional learning team plans, and the  
5 individual professional growth plans of teachers. ~~[The district may use up to one (1) day to~~  
6 ~~provide district wide training and training that is mandated by state or federal law.]~~ When  
7 providing district training that is mandated by federal or state law, only [Only] those employees  
8 identified in the mandate or affected by the mandate shall be required to attend the training.

9 (c) State funds allocated for professional learning [development] shall be used to support  
10 professional learning [development] initiatives that are consistent with local school improvement  
11 plans, professional learning team plans, and [professional development plans and] teachers'  
12 individual growth plans. The funds may be used throughout the year for all staff, including  
13 classified and certified staff and parents on school councils or committees. A majority [portion]  
14 of the funds allocated to each school council under KRS 160.345 shall be used to support job-  
15 embedded professional learning experiences and a portion may be used to prepare or enhance the  
16 teachers' knowledge and teaching practices related to the content and subject matter that are  
17 required for their specific classroom assignments.

18 (9) [(6)] The Department of Education shall provide professional learning resources [establish an  
19 ~~electronic consumer bulletin board that posts information regarding professional development~~  
20 ~~providers and programs]~~ as a service to school district central office personnel, school councils,  
21 teachers, and administrators. These resources shall include, but not be limited to, guidance on  
22 planning and providing high quality professional learning experiences for staff, key research on

1 professional learning, tools for evaluating of professional learning for its impact on improving  
2 teacher and administrator effectiveness in raising student achievement for all students.

3 [~~Participation on the electronic consumer bulletin board shall be voluntary for professional~~  
4 ~~development providers or vendors, but shall include all programs sponsored by the department.~~  
5 ~~Participants shall provide the following information: program title; name of provider or vendor;~~  
6 ~~qualifications of the presenters or instructors; objectives of the program; program length;~~  
7 ~~services provided, including follow up support; costs for participation and costs of materials;~~  
8 ~~names of previous users of the program, addresses, and telephone numbers; and arrangements~~  
9 ~~required. Posting information on the bulletin board by the department shall not be viewed as an~~  
10 ~~endorsement of the quality of any specific provider or program.]~~

11 (10) [(7)] The Department of Education shall provide training to address the characteristics and  
12 instructional needs of students at risk of school failure and most likely to drop out of school. The  
13 training shall be developed to meet the specific needs of all certified and classified personnel  
14 depending on their relationship with these students. The training for instructional personnel shall  
15 be designed to provide and enhance skills of personnel to:

- 16 (a) Identify at-risk students early in elementary schools as well as at-risk and potential dropouts  
17 in the middle and high schools;
- 18 (b) Plan specific instructional strategies to teach at-risk students;
- 19 (c) Improve the academic achievement of students at risk of school failure by providing  
20 individualized and extra instructional support to increase expectations for targeted students;
- 21 (d) Involve parents as partners in ways to help their children and to improve their children's  
22 academic progress; and

1 (e) Significantly reduce the dropout rate of all students.

2 (11) [~~8~~] By July 1, 2001, the department shall establish teacher academies to the extent funding  
3 is available in cooperation with postsecondary education institutions for elementary, middle  
4 school, and high school faculty in core disciplines, utilizing facilities and faculty from  
5 universities and colleges, local school districts, and other appropriate agencies throughout the  
6 state. Priority for participation shall be given to those teachers who are teaching core discipline  
7 courses for which they do not have a major or minor or the equivalent. Participation of teachers  
8 shall be voluntary.

9 **Effective:** July 15, 2002

10 **History:** Amended 2002 Ky. Acts ch. 302, sec. 2, effective July 15, 2002. -- Amended 2000 Ky.  
11 Acts ch. 162, sec. 4, effective July 14, 2000; ch. 452, sec. 3, effective July 14, 2000; and ch. 527,  
12 sec. 10, effective July 14, 2000. -- Amended 1998 Ky. Acts ch. 514, sec. 4, effective July 15,  
13 1998.; and ch. 609, sec. 1, effective July 15, 1998. -- Amended 1996 Ky. Acts ch. 362, sec. 6,  
14 effective July 15, 1996. -- Amended 1990 Ky. Acts ch. 476, Pt. I, sec. 13, effective July 13,  
15 1990. -- Amended 1985 (1st Extra. Sess.) Ky. Acts ch. 10, sec. 1, effective October 18, 1985;  
16 Amended 1978 Ky. Acts ch. 155, sec. 82, effective June 17, 1978. -- Amended 1956 (1st Extra.  
17 Sess.) Ky. Acts ch. 7, Art. II, sec. 2. -- Created 1950 Ky. Acts ch. 127, sec. 1.

18 **Legislative Research Commission Note (7/14/2000).** This section was amended by 2000 Ky.  
19 Acts chs. 162, 452, and 527. Where these Acts are not in conflict, they have been codified  
20 together. As to subsection (7) of this section, a conflict exists, in part, between Acts chs. 452 and  
21 527. Under KRS 446.250, Acts ch. 527, which was last enacted by the General Assembly,  
22 prevails in this conflict.

## DISCUSSION DRAFT

### Applying AdvanceKentucky to the Race to the Top Selection Criteria

The Race to the Top (RTT) application recognizes science, technology, engineering, and mathematics (STEM) as the only Competitive Preference Priority. States who demonstrate a commitment to implementing a high-quality plan that emphasizes STEM education in the manner required by the application have an opportunity to gain 15 extra points in the review process. That is equivalent to a three percent boost in an application's score, which can make a material difference as points are tallied.

In order to receive these Competitive Preference Priority points, States must not only provide a summary of the manner in which they will emphasize STEM education and fulfill the requirements of the Competitive Preference Priority, **States must also demonstrate that their emphasis on STEM education pervades the entire RTT application.**

AdvanceKentucky has dedicated the past two and one-half years to establishing in Kentucky the highly successful AP Training and Incentive Program (APTIP) with funding and national expertise of the National Math and Science Initiative (NMSI). In that time, AdvanceKentucky has proven its viability to dramatically accelerate students' access to, preparation for and success in rigorous AP mathematics, science and English courses. The integrated Elements of Success of the NMSI Model that have led to this measurable success of its first Cohort of 12 Kentucky high schools apply directly to many of the RTT Selection Criteria, and can help States demonstrate that their STEM initiatives apply to many aspects of their strategic plans for education reform. Moreover, NMSI currently is operating in only five other states besides Kentucky, providing a competitive advantage in the Race to the Top.

The following outlines pertinent ways in which AdvanceKentucky supports the Competitive Preference Priority as well as other State education reforms throughout the RTT application.

#### Competitive Preference Priority – Emphasis on STEM Education

This Competitive Preference Priority requires that States have a high-quality plan to

- (i) Offer a rigorous course of study in STEM;
- (ii) Cooperate with industry experts, museums, universities, research centers, or other STEM-capable community partners to prepare and assist teachers in integrating STEM content across grades and disciplines, in promoting effective and relevant instruction, and in offering applied learning opportunities for students; and
- (iii) Prepare more students for advanced study and careers in STEM, including by addressing the needs of underrepresented groups and of women and girls in the STEM fields.

AdvanceKentucky's successful implementation of the NMSI Model supports Kentucky as it addresses the first and the third components of this Competitive Preference Priority. The central focus of AdvanceKentucky is to implement a rigorous course of study that prepares students for advanced study in high school and in college. With the knowledge and confidence that this proven, integrated series of Elements of Success provide, students are more likely to attend and graduate from college, an essential step in preparing them for a career in STEM. The results generated by the first cohort of schools demonstrate that AdvanceKentucky already is addressing the achievement gap that exists for underrepresented groups, including girls.

These 12 pioneer schools represent only 7 percent of the Kentucky's public high school population yet contributed one-third of all *new* passing scores earned on the 2009 AP math, science and English exams in Kentucky statewide.

With a 79 percent increase in scores from 2008 to 2009, this cohort of schools performed at 14 times the national rate of increase.

On the 2009 AP Exams, the first Cohort of AdvanceKY schools accounted for one-half of all *new* math, science and English AP qualifying scores in Kentucky earned by low income students and one-half of all *new* qualifying scores earned by females in Kentucky.

These dramatic growth in scores placed Kentucky second in the nation in one-year percent growth in AP scores from 2008 to 2009.

To place these results in a more equalized context of math, science and English AP passing scores per 1,000 juniors and seniors, these 12 schools started considerably below the state average on this indicator and in one year shot up to exceed the national average – some schools by extraordinarily lengths.

Expanding the scope and reach of AdvanceKentucky into additional schools to reach nearly 50 percent of all Kentucky high schools over the life of RTT will serve to strategically multiply these positive effects and have a transformative impact on Kentucky's talent development in *both* STEM and English AP subjects.

AdvanceKentucky also addresses the second component above because the partnership with Laying the Foundation (Pre-AP teacher training and rigorous teaching materials to reach a diverse student population) helps to ensure that teachers are integrating STEM and English content across grades (6-11). Laying the Foundation (LTF) teacher training helps ensure that teachers are providing instruction that is relevant to and specifically directed towards preparing students for advanced STEM and English study in high school. Importantly, LTF training sessions are all imbedded with applied learning techniques immediately useful in teachers' classrooms.

LTF helps lay the foundation for common language and goals among teachers through vertical teaming and coordinated progression of skills across grades. While the training is grade and subject specific, all materials are presented to show how it strategically connects students' preparation for and self-confidence to succeed in rigorous math, science and English coursework. The training and materials establish a clear path for teachers to know how they each contribute to the preparation of students for college-level rigor, as well as to know what skills students will come into their class with, and what skills they will develop in any subsequent grades leading up to AP course options.

AdvanceKentucky is the formal affiliate of Laying the Foundation to offer its Pre-AP teacher training in Kentucky.

#### State Success Factors – Commitment from the Participating LEAs (A)(1)(ii)

AdvanceKentucky has an ongoing process for establishing formal commitments with schools and districts to implement the NMSI Model. This process include setting aggressive stretch goals for each school and teacher as measured by student success on internationally benchmarked math, science and English AP exams. With a strong core of schools ready to begin to implement AdvanceKentucky's proven, integrated set of Elements of Success, Kentucky is poised to take full and immediate advantage of this extraordinary opportunity to speed scale up across the State. Specifically, under the 20/20/20/20 scale up plan, 20 schools will be prepared to begin start-up activities in Spring 2010, AP and Pre-AP

teacher training in Summer 2010, and expanded access to AP math, science and English AP courses for the 10/11 school year.

Nearly 50 interested schools, in addition to the 28 already implementing AdvanceKentucky with funding from NMSI, are currently in various stages of application and implementation to AdvanceKentucky. With this existing interest that grows daily, AdvanceKentucky Cohorts of 20 new schools would be prepared to begin each year for the next four years -- or 80 new schools. Schools would participate for a maximum of 3 years in establishing a new culture of rigorous, high expectations and of confidence in achieving greater student success.

With 28 schools already in AdvanceKentucky, Kentucky is poised to reach 50 percent of its high schools by 2014.

#### State Success Factors – Generating Broad Statewide Impact (A)(1)(iii)

AdvanceKentucky is already generating broad statewide impact as demonstrated by the results from the first year of operation. With this proven model for achieving and demonstrating rigorous student learning in priority subjects as part of Kentucky's RTT plan, the State will continue to (1) increase student achievement in reading and math, (2) decrease the achievement gaps in reading and math, (3) increase high school graduation rates, and (4) increase college enrollment and the number of students who complete at least a year's worth of college credit.

#### State Success Factors – Building a Strong Statewide Capacity to Implement, Scale up, and Sustain Proposed Plans (A)(2)

AdvanceKentucky is a committed partner with a well experienced team of both content and program management experts with the proven capacity to implement, scale up, and sustain statewide education reform plans. AdvanceKentucky is the culmination of over 20 years of experience dedicated to advancing science and technology – through education, university R&D and technology enterprise developments.

As required for the RTT application, AdvanceKentucky has demonstrated its ability to identify and support participating LEAs as they implement the proven practices of a coordinated set of Elements of Success, widely disseminating and replicating these effective practices statewide, and holding participating LEAs accountable for progress and performance and transformational changes that are being demonstrated through AdvanceKentucky.

Additionally, AdvanceKentucky is a proven partner that has demonstrated its effective and efficient operations and processes in areas such as budget reporting and monitoring, performance measure tracking and reporting, and fund disbursement through public and private sponsors at state and national levels.

Professional non-profit management systems and accountability measures are well established by AdvanceKentucky to achieve this aggressive scale up to 80 new schools over the life of Kentucky's Race to the Top, and to hold participating schools accountable for student achievement and fiscal efficiencies. Likewise, AdvanceKentucky has demonstrated its reliable accountability for multiple multi-million dollar investments in education, university R&D and technology enterprise for the last 20 years. This includes an equally long history of clean state, federal, and private independent financial audits.

Finally, AdvanceKentucky stands as a dedicated member of Kentucky's coalition of stakeholders and a contributing partner that holds both high expectations and envisions the means by which to achieve unprecedented levels of student success in AP mathematics, science and English coursework. At the same time, AdvanceKentucky has a long-time statewide reputation for effective implementation of programs and policies and is regularly held accountable by both public and private sector overseers for results measured in terms of student success in rigorous AP coursework in these priority subjects.

State Success Factors – Demonstrating Significant Progress in Raising Achievement and Closing Gaps (A)(3)

The success and results from the first cohort of APTIP schools helps bolster [INSERT STATE]'s demonstration that it has improved student outcomes since 2008. Because the APTIP is targeted to AP scores, [INSERT NON-PROFIT NAME] can easily explain the connection between the results and the actions that contributed to increasing student achievement, decreasing achievement gaps, and possibly increasing graduation rates. AdvanceKentucky has proven its ability to create an environment that is supportive of, conducive to, and committed to education reform. Its inaugural Cohort of 12 schools contributed to Kentucky's ranking as the second in the nation in terms of the one-year percent increase (from 2008 to 2009) in AP qualifying scores in math, science and English. These 12 schools representing just seven percent of Kentucky's public high school students, earned 778 AP qualifying scores, contributed one-third of all *new* qualifying scores on these national, priority AP exams, 50 percent of *new* qualifying scores earned by low income students and among females -- across the entire state. Among 28 currently participating Kentucky high schools in the 09/10 school year, 5,900 students are enrolled in 185 AP math, science and English courses, representing an astounding 60 percent increase in enrollments above last year.

Standards and Assessments – Supporting the Transition to Enhanced Standards and High-Quality Assessments (B)(3)

This criterion requires a high-quality plan for supporting a statewide transition to and implementation of internationally benchmarked K-12 standards that build toward college and career readiness by the time of high school graduation and high-quality assessments tied to those standards.

The AP courses, the core content of AdvanceKentucky, support this requirement; they incorporate college level curriculum standards, and the AP exams that measure student achievement against college level benchmarks. Further, AP courses standards and exams were developed by higher education faculty and represent college level standards. Students' qualifying scores on AP exams are widely accepted as college credit. Every AP course so labeled on a student's high school transcript undergoes an "audit" by the College Board of the course syllabus and instructional materials and assessments. These audits are performed by college faculty across the country.

Thus, AP courses and exams taken by students participating in AdvanceKentucky provide internationally benchmarked standards tied to college readiness by the time of high school graduation and a system of common, national assessments that are linked to those standards. By expanding high schools participating in AdvanceKentucky, Kentucky's Race to the Top statewide plan support far more aggressive dissemination of those standards, implementation of high-quality instruction and assessments, prepares students for college by the time they graduate high school, and deliver high-quality teacher and school administrator professional development to support these standards and assessments and achieve dramatically improved student performance, with a special focus on reaching many more students traditionally underrepresented in AP.

This open enrollment approach requires a deliberate and intentional approach to reach out to these underrepresented students. This is accomplished in many ways to personally approach students but also by data analyses that may reveal promising indicators of students talents not yet fully realized. In particular, the ACT college readiness standards now offer research that supports the ability to use the ACT Plan test scores (a national exam administered to every 10<sup>th</sup> grader in Kentucky and paid for by KDE) to help predict students' probability of achieving qualifying scores on each AP exam. In this way, AdvanceKentucky expects participating schools to know and use these data well to intentionally reach out to many more students and recognize their potential for rigorous coursework. Now these schools have an integrated set of Elements of Success to provide the additional supports for both students and teachers serving in this open enrollment environment. [See "ACT Issues in College Readiness: Using PLAN to Identify Student Readiness for Rigorous Courses in High School"]

#### Data Systems to Support Instruction – Using Data to Improve Instruction (C)(3)

[FYI, AdvanceKentucky has solicited the assistance of National Math and Science Initiative's National AP Director to help expedite Kentucky's use of AP data in statewide longitudinal research on Kentucky's students. A meeting is set for Dec 8<sup>th</sup> at KDE. ]

For all participating schools AdvanceKentucky tracks teacher and student data on the relevant Elements of Success (i.e., AP qualifying scores by student and by teacher, extra time on task for students, teacher training and mentoring, etc.). Moreover, AdvanceKentucky is supported by extensive national data analyses by NMSI to better place in context the level of growth and students achievements from year-to-year and longitudinally over time.

#### Great Teachers and Leaders – Improving Teacher and Principal Effectiveness Based on Performance – (D)(2)

The RTT application places significant emphasis on measuring student growth. The AP exams provide a distinct and common measure of achievement for each individual student and are a nationally recognized metric for tracking student growth and college readiness. AdvanceKentucky links the accountability of administrators' and teachers' performance to funding incentives based on this national measure of student growth. At the same time, AdvanceKentucky institutes aggressive supports for teacher training, vertical teaming among AP and Pre-AP teachers and students' skills development that builds student success and readiness to achieve qualifying scores on national AP exams in math, science and English. Management strategies also are put in place to directly tie administrator incentives to student achievements in AP. Administrators include principals and in many cases other local champions of AP to ensure that all the Elements of Success are being fully implemented for maximum success.

#### Great Teachers and Leaders – Ensuring Equitable Distribution of Effective Teachers and Principals (D)(3)

A critical component of the APTIP is providing professional development and training to teachers in participating schools so that those teachers become highly effective in the hard-to-staff subjects of math and science.

AdvanceKentucky invests considerable resources into developing successful teachers and principals – as measured by their students' success on AP exams in math, science and English. As a result of this strategy, many more Kentucky teachers are available to help mentor and assist newer or to-date less successful teachers. As AdvanceKentucky expands to more schools, this expanded teacher/mentor talent base is develops further every year to support this statewide expansion. As importantly, by investing in Kentucky's teacher talent development able to serve this more diverse AP student population, AdvanceKentucky set as a priority the ability to sustain the Elements of Success over time by

continuously and relentlessly increasing the percentage of highly effective teachers distributed across the State.

Because AdvanceKentucky places the highest priority to serve largely underrepresented student populations of both low income and minority students, AdvanceKentucky has proven successful in its teacher training and development in a wide range of schools including high-poverty and high-minority student populations.

Great Teachers and Leaders – Providing Effective Support to Teachers and Principals (D)(5)

AdvanceKentucky includes a system of high-quality, effective, data-informed professional development for its teachers. [INSERT NON-PROFIT NAME]'s professional development design focuses on a train-the-trainer model which provides experts to each participating school. State and national content experts train and mentor local AP teachers and administrators, who in turn over time are called on as contractors to help mentor others in their school and across the state in their respective content areas. This highly customizable professional development paradigm of continuously building local teacher talent to teach rigorous content and administrative supports to create a culture of high expectations is highly effective -- as demonstrated by the increase of students with passing AP scores in the schools where this professional development plan was implemented) and tied to internationally benchmarked standards of the AP exam.

As such, AdvanceKentucky's extensive professional development strategies, including summer institutes and various job-imbedded training strategies throughout the school year, are already in place and primed to support teachers in participating LEAs in Kentucky's Race to the Top. These are annual, not one-time efforts, for both new and more experienced teachers, are data driven based on students prior achievements on AP math, science and English Exams, and are incented by annual stipends for the extra time required to achieve these gains and performance bonuses based on student achievement on AP exams.

**Kentucky Science Technology Engineering and Mathematics (STEM) Education  
Imperative Funding Request  
STEM Concept Proposal - PLTW**

Submitters:

Science, Technology, Engineering & Mathematics (STEM) Education Workgroup  
Dr. Lee Todd, Chair  
Commissioner Deborah Clayton, Vice Chair

Project Title:

Kentucky's STEM Education Imperative

Project Partners/Team:

Cabinet for Economic Development; Girls' STEM Collaborative; Kentucky Association of Manufacturers; Kentucky Chamber of Commerce; Kentucky Community & Technical College System; Kentucky Council on Postsecondary Education; Kentucky Department of Education; Kentucky Society of Professional Engineers; Lexmark International, Inc.; The NEED Project; Northern Kentucky University; Project Lead the Way; Toyota; Western Kentucky University; University of Kentucky; University of Louisville.

Project Background & Purpose:

For many years, Kentucky has been recognized for its successful tobacco, equine and bourbon industries. Today Kentucky is known for high marks and rankings in less-than-desirable health, social, and educational issues. Kentucky recognizes the critical need to turn these issues into opportunities, to emerge ready to face the future, preparing Kentucky children for success in high-tech medical, science, and technology careers. Further, Kentucky recognizes the clearly established and documented link between educating children and improving economic opportunity. Now Kentucky embraces this moment in which it can redefine for the long-term the way our children learn math and science, and prepare themselves for successful careers in STEM disciplines.

This is Kentucky's moment to move forward via the many facets of *Project Lead the Way*<sup>™</sup> (PLTW), a proven, recommended, nationally recognized and nationally aligned K-12 STEM curriculum. The expectations of this project include the strengthening of STEM education of all middle and high school students to make them college and STEM career-ready; to improve teacher effectiveness through enhanced teacher preparation/continuing professional development; to utilize rigorous assessments to monitor learning outcomes; and to implement the appropriate infrastructure to verify the expected improvements.

Scaling statewide rigorous STEM education curricula responds to President Obama's strong commitment to spur innovation in America's schools and his willingness to put stimulus package dollars to the task of supporting effective curricular models that work, such as PLTW.

*"... since we know that the progress and prosperity of future generations will depend on what we do now to educate the next generation, today I am announcing a renewed commitment to education in mathematics and science. Think about new and creative ways to engage young people in science and engineering. . . encourage young people to create, build, and invent to be makers of things, not just consumers of things." Barack Obama, U.S. President.*

The keys for Kentucky's future are found in several areas of opportunity:

- Changing and adopting the Kentucky Core Content Standards to embrace national STEM standards.
- Recruiting, encouraging and rewarding teachers who exhibit outstanding teaching skills and practices, as proven by documented results. Kentucky currently has a tuition-forgiveness program as well as scholarship support for aspiring math and science teachers.
- Bridging the gap for all students to have equal exposure and opportunities to investigate STEM careers, thereby increasing the Commonwealth's workforce more deeply populated with mathematicians, scientists, and engineers.
- Improving and implementing appropriate infrastructure to capture and quantify successes and to recognize improvement areas.

*“ . . . these commitments of improvement in teacher effectiveness and ensuring all schools have highly qualified teachers; making progress toward college- and career-ready standards; improving achievement in low-performing schools; and evaluation of the above through enhanced data systems that track progress, will help ensure outstanding teachers in America's schools, arm educators with the tools and data needed to determine what does and doesn't work in our nation's classrooms, align curricula and assessments with rigorous standards that prepare young people for college and careers, and transform our lowest-performing schools.”*  
Arne Duncan, U.S. Secretary of Education.

Efforts currently in place to move Kentucky toward these keys to future success include:

- The Beshear administration working diligently and effectively to make Kentucky competitive attracting and retaining high tech companies.
- Legislators from both parties in both chambers investing effort and funding to elevate Kentucky's STEM efforts, for both energy and engineering.
- The presidents of Kentucky's universities expressing support for and willingly providing strengthened and continuing pre-service and in-service training to P-12 teachers in these areas of critical need.
- Kentucky superintendents and members of school boards recognizing the need to dramatically improve the way teachers teach and students learn, especially in STEM-related curricular areas.
- Schools scattered throughout the state are successfully supporting STEM education and leveraging available state resources but these efforts are remain isolated and episodic.
- Kentucky has both water and coal energy resources to be a leader in America's move toward energy independence; however, the state's ability to become a leader depends upon strengthening the supply of STEM professionals.
- The recent announcement that Argonne National Laboratory will locate a research and development (R&D) Advanced Battery Technology Center in Kentucky gives momentum to the call for more STEM graduates and researchers.
- The retirement of much of Kentucky's teaching workforce requires creative ways of re-engaging them with 21<sup>st</sup> Century skills, while recruiting new STEM disciplined educators..

The creation of a skilled STEM workforce is the cornerstone for research and development, and consequently the key to innovation and success in the knowledge-based technology-driven economy. There is broad agreement that STEM education in the United States is not producing the quality and quantity of graduates needed to keep the U. S. competitive. Numerous analyses have documented that Kentucky ranks below the national average in developing scientific and innovation talent as reported in National Science Foundation's Science and Engineering Indicators. Kentucky's recent (2009) college-bound public high school seniors' composite ACT scores were lower than in 2008, with all subject areas below ACT benchmarks for college readiness. In 2007, the Council on Postsecondary Education's STEM Task Force (STEM I) identified a strong emphasis on P-20 collaborative partnerships with multi-sectors, including business, industry, and civic leaders, as the mechanism to bridge the chasm between education and employer needs in the 21st Century. Specifically identified is a critical need for teaching more rigorous STEM curricula and for teacher education focused on enhanced STEM-disciplined and embedded pedagogy.

It is not enough to encourage and applaud isolated efforts in various schools in various parts of the state. Key to Kentucky's successful participation in the knowledge economy is for all Kentucky schools to be given the opportunity to embrace dramatic and lasting change and progress in the STEM education they provide, the skills and the knowledge to be effective teachers and administrators, and the tools to execute the delivery of a proven, recognized, standards-based STEM curriculum.

#### Project Description:

PLTW (<http://www.pltw.org/index.cfm>) is a nationally-recognized middle and high school curriculum focused on projects and problem-based contextual learning. PLTW's aim is to cultivate student interest in pursuing careers in engineering, advanced manufacturing, biomedical sciences, and energy. PLTW makes science, math, engineering and technology fun for students, and encourages those who may have overlooked a STEM career by opening the door of options and opportunities. PLTW focuses on the development of logical, problem-solving skills, thereby preparing students for STEM-related postsecondary education or the technology workforce. The success of PLTW depends on integrated partnerships between elementary, middle and high schools, colleges and universities, and the business and government sectors.

Research has shown when schools apply activities and problem-based learning student motivation increases. Additionally, students acquire cooperative learning skills and higher-order thinking, resulting in an increase in overall student achievement. For example, according to an evaluation by *High Schools That Work*, PLTW students scored significantly higher in both mathematics and science high school assessments (See Appendix I). The National Center for Education Statistics 2006-07 True Outcomes report explains that students who participate in PLTW are five times more likely to graduate college as science, technology, engineering and mathematics (STEM) majors than those who do not; PLTW students are more likely to choose engineering; and the retention rate after enrollment into engineering is higher for PLTW students (See Appendix II). PLTW is standards-based, incorporated and aligned with standards from the National Academy of Sciences, National Council of Teachers of Mathematics, International Technology Education Association, and National English Language Arts. Additionally, In June 2009, the Education Commission of the States awarded PLTW the

2009 ECS Corporate Award for the organization's commitment to and investment in improving public education.)

Kentucky STEM I & II workgroups have determined that *Project Lead the Way*<sup>™</sup> (PLTW), when implemented statewide, will increase engineering, biomedical, manufacturing, and energy talent pipelines in Kentucky and therefore deliver the quantity and quality of students graduating from high school prepared for high-tech fields. PLTW has been praised by numerous professional organizations, including the Aerospace Industry Association and the Society of Manufacturing Engineers, and was the subject of a recent segment on National Public Radio entitled, *Can Science Reasoning Be Taught?* PLTW is the only K-12 STEM curriculum identified in the 2005 report, "Rising Above the Gathering Storm" published by the National Academies of Engineering, Science and Health as the path to improving the STEM workforce in this country.

Kentucky's educational data warehouse plan calls for including PLTW students in the longitudinal data system currently under implementation for the state, including the evaluation of PLTW students compared to non-PLTW students in academic areas. Appendix 1 shows the comparison between these two groups from a national PLTW perspective.

As academics improve in PLTW schools, teachers can achieve recognition and reward through the PLTW School Certification process, ultimately leading to opportunities for additional compensation through the PLTW Master Teacher training process. Currently Kentucky has eight PLTW certified high schools, or 10 percent of all PLTW schools. Kentucky already has invested seed money in PLTW. The 2006 and 2008 Kentucky General Assembly appropriated funds to begin implementing PLTW in Kentucky. To date, nearly 100 schools have registered to participate, with implementation in 78, including nine schools' proposals approved to begin in 2009-2010. These participating schools represent only 17 percent of Kentucky's 174 public school systems. There are 224 middle schools and 225 high schools statewide. National and Kentucky data show PLTW is a program that works, as shown in Appendix I. PLTW students have higher standardized test scores, they are much more likely to complete four years of math and science during high school, their college preparation is enhanced, and 97 percent of them plan to attend college, with 80 percent indicating their primary area of study will be engineering, technology or computer science. Clear evaluative measures are in place to monitor outcomes and track student progress through Kentucky's educational data portal, as well as national PLTW metrics.

There are several reasons PLTW is appealing to schools and teachers and effective for students:

- PLTW provides an equal opportunity for all students regardless of prior learning.
- Implementation is straight-forward with few changes to existing curriculum, enriching core content.
- Extensive continuous professional development for teachers is required and provided via an established Kentucky university affiliate.
- Teacher training takes place through on-campus Summer Training Institutes and the PLTW Virtual Academy, offering graduate education credit for professional development.
- Equipment/software installation, maintenance, and support are available to all participating systems.

- Partnering with local employers and mentors from diverse sectors of society is an eligibility criteria for participation to best serve an integrated knowledge-based economy.
- PLTW courses are considered part of the general education courses in the regular high school program, reflecting national standards in math, science, and technology.
- PLTW students outperform non-PLTW students in academics (See Appendix I)

PLTW aligns with Kentucky's other continuing efforts in STEM education, including the Girls' STEM Collaborative, AdvanceKentucky, the Partnership Enhancement Projects (PEP), the Center of Integrative Natural Science and Math (CINSAM), and SKYTeach.

PLTW is cost-prohibitive for many schools in Kentucky due to the added teacher load (teacher to student ratio of 1:20), additional laboratory space, furniture, computer equipment, and software. The curriculum is high-tech and high-touch. Many Kentucky school systems do not have capacity to provide substitutes or the cost of Summer Training Institutes for teachers' professional development, which is required through intense annual continuing education. Without financial assistance, many school systems would not be able to provide PLTW without the commitment of additional state, community, and multiple sector support.

PLTW can be expanded and further developed in Kentucky with a systematic investment in human capital and equipment. Already in place is the technical advisory expertise of the Kentucky Department of Education, as well as the PLTW University Affiliate within the University of Kentucky College of Engineering. Clearly, state level financial support has been critical to school implementation as illustrated by the Kentucky General Assembly's investments made through KDE energy initiatives, and CPE's pre-engineering pipeline funds. This proposal provides annualized investments needed for statewide scaling of STEM education.

In addition to strengthening schools for the long-term, PLTW P-12 opportunities will subsidize technical support in each of the 250 schools, equipping laboratories with new, high-tech and scientific equipment. In addition, rigorous STEM professional development for over 400 teachers and counselors will be provided.

Project Budget and Amount of Economic Stimulus Funds Requested:

Expanding PLTW to 250 additional Kentucky middle and high schools in two years will cost an estimated \$25 million (See Appendix III). This amount includes professional development funds and equipment start-up costs. Clear support has been demonstrated by the Kentucky Department of Education, the Council on Postsecondary Education, the Cabinet for Economic Development's Department for Commercialization and Innovation, Lexmark International, Inc., Kentucky Society of Professional Engineers, business and industry leaders, public/private sector interests, and both parties in both chambers of the Kentucky General Assembly. Kentucky has invested to date \$2.8 million in PLTW, in addition to KDE, CPE, the University of Kentucky and local investments.

The General Assembly created a second STEM Task Force (STEM II) and charged it with developing a business plan following the recommendations of the STEM I Task Force. That business plan included the scaling of PLTW statewide.

([http://cpe.ky.gov/NR/rdonlyres/9A310C72-2566-4BD3-9F55-](http://cpe.ky.gov/NR/rdonlyres/9A310C72-2566-4BD3-9F55-F56608816C71/0/STEM2Report1208.pdf)

[F56608816C71/0/STEM2Report1208.pdf](http://cpe.ky.gov/NR/rdonlyres/9A310C72-2566-4BD3-9F55-F56608816C71/0/STEM2Report1208.pdf)) This 2008 plan forged a phased approach to build a strong collaborative for sustaining new PLTW programs for two years, adding additional

programs each year as schools become self-sustained by their systems. Funding opportunities through the federal Stimulus Package (American Recovery and Reinvestment Act – ARRA), National Science Foundation (NSF), U.S. Department of Education (US ED) as well as legislative support is needed to secure any and all funds to both scale and sustain the program statewide. Additional funding opportunities through grants and foundations, as well as additional federal programs continue to loom on the horizon and aggressive efforts will continue to enhance all potential funding assistance.

Project Team:

Kentucky Department of Education, Division of Career and Technical Education, PLTW Director, Henry Lacy and Division Director, Deborah Anderson; Kentucky Community and Technical College System, pre-engineering/bio-science faculty; University of Kentucky College of Engineering PLTW National Affiliate Director, Dianne Leveridge; Patrick Brewer with Lexmark International; William Kovacic, retired, of the Kentucky Society of Professional Engineers.

Budget Proposal: (Appendix III.)

To scale the program rapidly utilizing national stimulus funds would enable PLTW to be provided in an additional 250, or 55 percent of Kentucky public middle and high schools within two years. Joint program proposals from smaller school systems should be rewarded for being fiscally responsive and best utilizing limited business/industry resources at the local level. Larger school systems with existing PLTW programs could serve as mentors and consultants to neighboring schools in the early stages of curriculum implementation. School systems and administrators are willing to provide some startup funds and are required to match costs of professional development for teachers and counselors by national affiliation with PLTW.

The budget included in Appendix II reflects a rapid escalation to scale 55 percent of Kentucky's middle and high schools with PLTW funding within the next two years. Beginning with 100 new programs in middle and high school pre-engineering/energy curricula and 50 new high school programs in the Biomedical Science curricula, this stimulus proposal will fit the stimulus package objectives for immediate and long-term educational and subsequently economic benefits. The curriculum contains clear evaluation metrics to ensure that it meets the stimulus package's strict transparency and accountability requirements, as well as assessments congruent with national standards.

Additional funding enables expansion of PLTW into more schools statewide, bringing the total schools in Kentucky to 73 percent. Scaling quickly will shorten the duration to achieve Kentucky's 2020 goals and respond to a dire need expressed by state and national economic development goals of Kentucky.

## PLTW Student Observations

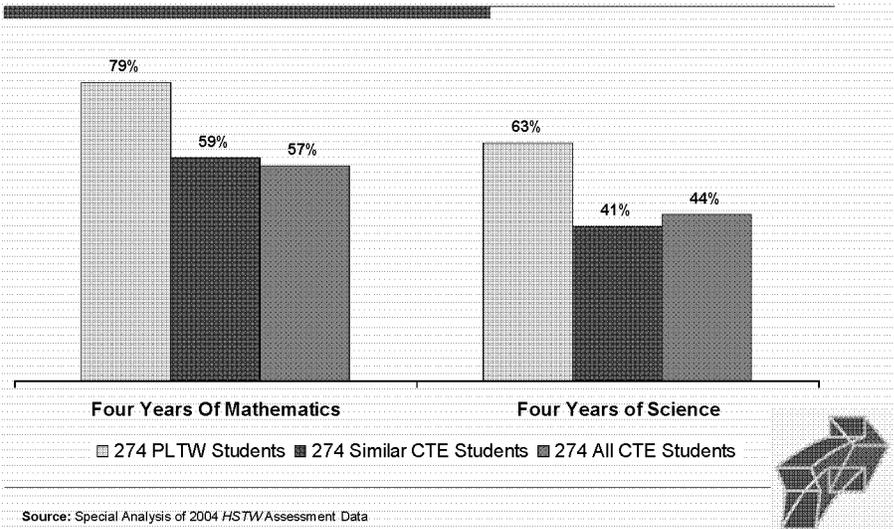
“I’d like to be a civil engineer and work with bridges and roads.” CTE student, Franklin County Career & Technical Center

“I was not planning to go to college. Now, with this class, I am thinking of going to the community college.” CTE student, Jessamine County Career & Technical Center

“I’m thinking of being an engineer since I get college credit for these classes I’m taking at the tech center.” CTE student, Franklin County Career & Tech Center

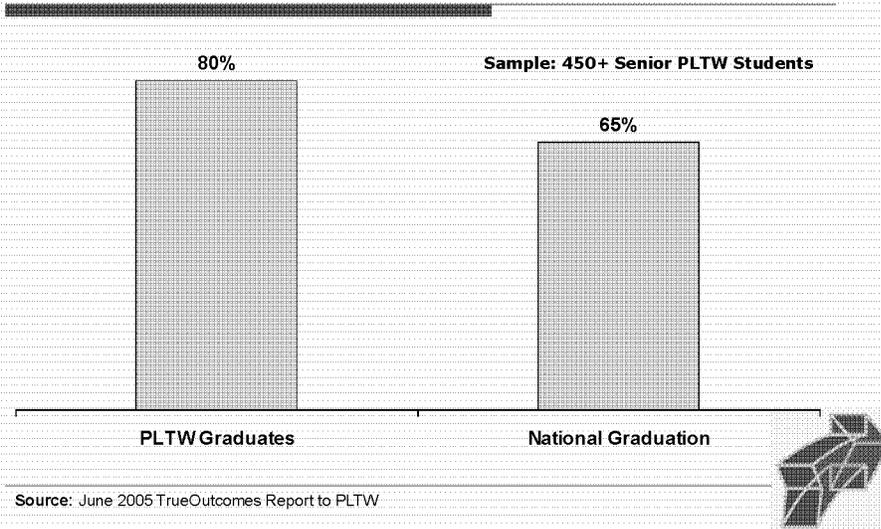
### Appendix I

## PLTW Students Compared to Course-taking Patterns of Other CTE Students

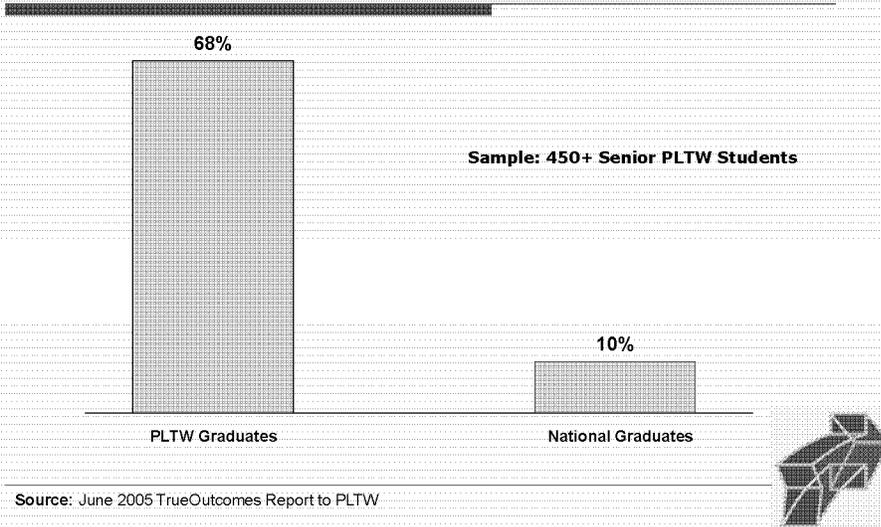


Appendix II

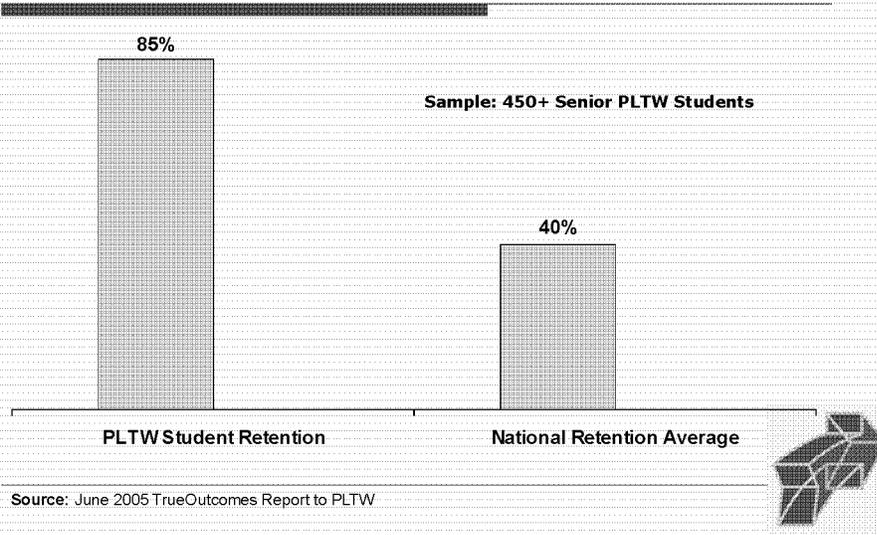
## Senior Students Planning to Attend 2 or 4 year Post-secondary Studies



## Senior Students Planning to Enroll in Engineering or Engineering Technology Post-secondary Studies



## Student Retention in the 2<sup>nd</sup> Year of Engineering or Engineering Technology Post-secondary Studies



Appendix III

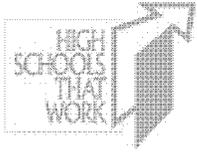
SCHOOL COST PROJECTIONS	Two-Year Costs for Initiating 250 new PLTW schools		
	# Schools	Cost Per School	Total 2-year Costs
Middle Schools (pre-Eng/Energy)	100	55,000	5,500,000
High Schools (pre-Eng/Energy)	100	110,000	11,000,000
High Schools (Biomedical)	50	100,000	5,000,000
KDE Coordinators/Evaluators/Fiscal Management			1,500,000
Technical Support (1 PT/school)	250	5,000	1,250,000
UK PLTW Affiliate, Institute Staff/Materials			1,500,000
<b>Annual Projections</b>			<b>25,750,000</b>

**Budget Justification:**

- PLTW proposes 250 new school sites in Kentucky, representing 55 percent of Kentucky middle and high schools. With the 78 schools already offering the PLTW curriculum, this growth increases the number to 328, or 73 percent of schools offering pre-engineering/energy and/or biomedical science STEM education.
- Initiating 250 new programs over two years requires additional coordination within the state education department, as well as expansion of the Summer Training Institute locations.
- Each new school site requires the technical support/maintenance provided either by the school board or as in-kind industry support.

**Results:**

- Middle Schools with pre-Engineering/Energy PLTW 100
- High Schools offering pre-Engineering/Energy PLTW 100
- High Schools offering Biomedical Science PLTW 50
- MS/HS Prior to 2010 Academic Year 79
- **Total Kentucky MS/HS offering PLTW (73%) 328**



# Research Brief

SREB

## Project Lead the Way: A Pre-engineering Curriculum That Works A New Design for High School Career/Technical Studies

by Gene Bottoms and Karen Anthony

**P**roject Lead The Way (PLTW) is a high school pre-engineering program taken in conjunction with college-preparatory level academics designed to prepare students for postsecondary engineering studies.

PLTW courses utilize project- and problem-based learning that teaches high school students how to apply what they are learning to real-life situations. These courses provide opportunities for students to:

- understand the scientific process, engineering problem-solving and the application of technology;
- understand how technological systems work with other systems;
- use mathematics knowledge and skills in solving problems;
- communicate effectively through reading, writing, listening and speaking; and
- work effectively with others.<sup>1</sup>

The *High Schools That Work* (HSTW) and PLTW partnership began in September of 1999 in order to create a high school pre-engineering pathway. The design and rigor of the PLTW program provides students with quality learning experiences across both academic and career/technical classes. PLTW complements the major goals of the *HSTW* design by blending the essential content of traditional college-preparatory academic studies with challenging career/technical studies, thus increasing the percentages of students completing a quality core curriculum and scoring at or above the proficient level in reading, mathematics and science.

May 2005

Southern  
Regional  
Education  
Board

592 10th St. N.W.  
Atlanta, GA 30318  
(404) 875-9211  
www.sreb.org

---

<sup>1</sup> HSTW *Presents a Pre-engineering Program of Study*, 2001.

---

Features of the PLTW pre-engineering program of studies that other career/technical areas can adopt to raise standards and integrate their courses with academic studies include requiring:

- four years of mathematics — Algebra I and higher — and at least three college-preparatory-level lab-based science courses;
- course curriculums that contain key concepts that affect students' academic and technical learning;
- teacher participation in two weeks of training for each course they plan to teach. Training begins with a pre-assessment of the teacher's possible weaknesses in mathematics, followed by suggested actions to strengthen those particular mathematics skills. Further training is provided on how to teach in a project-based format, how to engage students in projects and problems requiring rigorous mathematics and science knowledge and skills, and how to assess students' mastery of materials;
- upgraded laboratories with equipment, instructional materials and supplies essential for teaching the courses;
- end-of-course exams that teachers use to determine whether students have mastered key course concepts; and
- training for counselors that addresses the changing workplace and the courses students need to take in order to successfully complete the curriculum and be prepared for postsecondary study and careers in the given field.

The purpose of this research is to determine whether the PLTW program results in students with higher quality learning experiences — and higher achievement — when compared to other students in the *HSTW* network.

In the analysis of PLTW students, the following questions were posed:

- Do PLTW students in the *HSTW* network have significantly higher achievement in reading, mathematics and science on a NAEP-referenced assessment than other students in the network?
- Are PLTW students more likely to take higher-level mathematics and science courses than other students?
- How do PLTW students who complete four years of college-preparatory mathematics and science perform compared to PLTW students who do not complete four years of college-preparatory mathematics and science?
- Do PLTW students experience more engaging instructional strategies in mathematics and science classes and across the curriculum?
- Do PLTW students have a richer set of learning experiences in their career/technical courses?
- Are PLTW students more likely than other career/technical students to plan to attend a four-year college or university?

---

## Key Findings

- When PLTW students are compared to similar students from comparable career/technical fields, PLTW students have significantly higher achievement in mathematics on a NAEP-referenced assessment.
- When PLTW students are compared to similar students across all career/technical fields, PLTW students have significantly higher achievement in reading, mathematics and science on a NAEP-referenced assessment.
- When PLTW students are compared to similar students in comparable fields of study and to similar students drawn from all career/technical fields, PLTW students complete significantly more higher-level mathematics and science courses.
- Significantly more PLTW students were enrolled in classes that engage them in reading and writing across the curriculum; and in using real-world problems, technology and group work to advance mathematics and science achievement.
- Significantly more PLTW students experience career/technical classes that required students to use academic knowledge and skills to complete project assignments.

To answer these questions, the results of the 2004 *HSTW* Assessment and student survey were analyzed. The 274 students who participated in the 2004 *HSTW* Assessment reported completing at least two PLTW credits. Preliminary analyses revealed that this group of students had significantly different demographics than other career/technical students in the *HSTW* network. In order to make valid comparisons between career/technical students and PLTW students, a random sample of career/technical students matching the demographic composition of the PLTW group was drawn so that differences between the two groups would be more attributable to students' school and classroom experiences, rather than their backgrounds.<sup>2</sup> For these analyses, two different comparison groups were used: 1) career/technical students from high-tech fields,<sup>3</sup> and a sample of 2) all career/technical students.

For both comparison groups — high-tech fields and all career/technical students — two random samples of 274 students were drawn to match the demographics of the 274 PLTW students. (See Table 1.)

---

<sup>2</sup> A stratified random sample technique was used to separate students in each career/technical comparison group into categories based on gender, ethnicity and parental educational level. Then, for each career/technical comparison group, a random sample of students was chosen from each demographic category to exactly match the number of students in each category within the PLTW student group.

<sup>3</sup> For the first comparison group, students were chosen only if they had completed CTE majors in Information Technology; A/V Tech and Communications; Electricity and Electronics; Drafting and Design; or Technology and Engineering. Because Project Lead The Way is a career pathway within the Science, Technology, Engineering and Mathematics cluster, students who reported completing this major and at least one PLTW credit were removed from the pool.

Table 1  
Student Demographics for All PLTW Students and CTE Comparison Groups

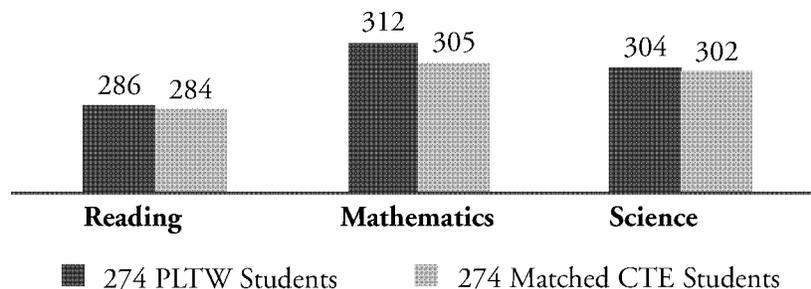
Group	Male	Female	White	African-American	Other Ethnicities	Students Whose Parent Attended College	Students Whose Parent Did Not Attend College
All PLTW Students	76%	24%	64%	24%	12%	69%	31%
CTE Comparison Groups	76	24	64	24	12	69	31

Source: Special Analyses of 2004 *HSTW* Assessment Data

### Do PLTW students in the *HSTW* network have significantly higher achievement in reading, mathematics and science on a NAEP-referenced assessment than other students in the network?

The PLTW program requires teachers to participate in two weeks of training for each course they plan to teach to help them learn how to engage students in the mathematics and science needed in pre-engineering courses. Teachers also learn how to utilize a course guide. Because the PLTW program requires its pre-engineering students to complete challenging studies in mathematics and science, it is to be expected that PLTW students will score higher on the *HSTW* Assessment mathematics and science sub-tests than a comparable group of students from high-tech career/technical fields. **In 2004, PLTW students scored slightly higher in reading and science and significantly higher in mathematics than this group of students.** (See Figure 1.)

Figure 1  
Comparison of Pre-engineering Students' Mean Scores to a Random Sample of Career/Technical Students from Similar Fields

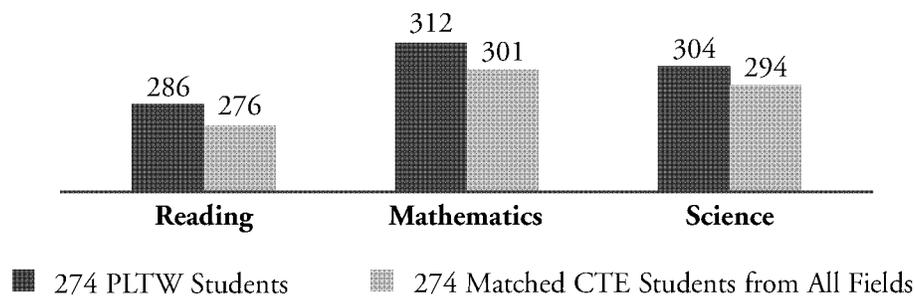


Source: Special analyses of 2004 *HSTW* Assessment data

Note: The difference in the mean scores for mathematics between the two groups is significant at  $p \leq .05$  on the *t* test.

However, when comparing the PLTW students to a random sample of all career/technical students, there were much greater differences in achievement. PLTW students outscored a random sample of career/technical students by 10 points in reading, 11 points in mathematics and 10 points in science. The differences in reading, mathematics and science achievement are significant. (See Figure 2.) This can be taken as evidence that many high school career/technical students are achieving far below their potential because they are not completing a challenging curriculum and are not experiencing classes with an intensive emphasis on research-based problems.

Figure 2  
Comparison of Pre-engineering Students' Mean Scores to a Random Sample of All Career/Technical Students



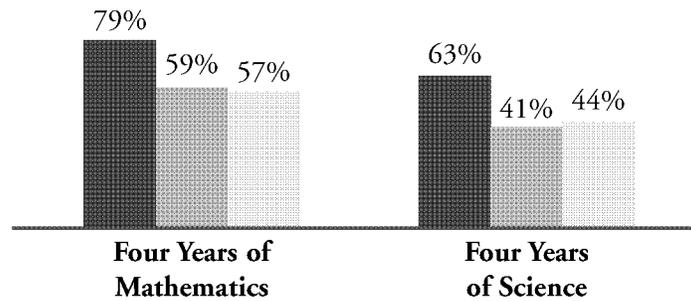
Source: Special analyses of 2004 *HSTW* Assessment data

Note: The differences in the reading and mathematics mean scores between the two groups are significant at  $p \leq .001$ , and the difference in the science mean score is significant at  $p \leq .05$  based on the  $t$  test.

## Are PLTW students more likely to take higher-level mathematics and science courses than other students?

Project Lead The Way requires students to complete four courses in college-preparatory level mathematics, and also encourages students to complete four courses in science. **Further analysis revealed that significantly higher percentages of PLTW students took four years of mathematics and science compared to the two comparable groups.** Seventy-nine percent of PLTW students took four years of mathematics (Algebra I and higher), and 63 percent took four years of science. In the matched group of career/technical students from similar fields, only 59 percent took four years of mathematics and 41 percent took four years of science. In the sample of all career/technical students, 57 percent took four years of mathematics and 44 percent took four years of science. (See Figure 3.) Yet, there is no reason to believe that the same percentages of students from the matched career/technical groups could not have succeeded if they had been encouraged and given the opportunity.

Figure 3  
 Comparison of Pre-engineering Students' Course-taking Patterns to Other Career/Technical Students



■ 274 PLTW Students      ■ 274 CTE Students from Similar Fields      ■ 274 CTE Students from All Fields

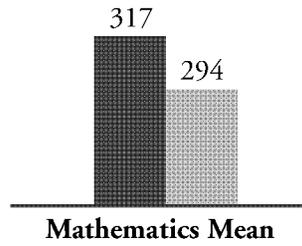
Source: Special analyses of 2004 *HSTW* Assessment data

These results suggest that the PLTW approach of stressing to students the importance of completing an academic sequence along with their pre-engineering courses is effective in getting the message across and results in more students completing four years of college-preparatory mathematics and science courses.

### How do PLTW students who complete four years of college-preparatory mathematics and science perform compared with PLTW students who do not complete four years of college-preparatory mathematics and science?

Seventy-nine percent of PLTW students completed four years of college-preparatory mathematics, and 63 percent completed four years of college-preparatory science. When PLTW students who completed higher-level mathematics and science courses are compared to students who did not, significant differences in achievement are evident. Those completing the mathematics curriculum had a mean score 23 points higher than other PLTW students, and those completing the science curriculum had a mean score 15 points higher. (See Figures 4 and 5.)

Figure 4  
 PLTW Students' Mean Mathematics Scores by  
 College-preparatory Mathematics Courses Completed

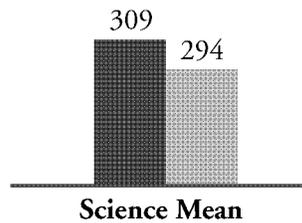


■ Completed Four Years CP Mathematics      ■ Did Not Complete Four Years CP Mathematics

Source: Special analyses of 2004 *HSTW* Assessment data

Note: The difference in the mean scores for mathematics between the two groups is significant at  $p \leq .001$  based on the *t* test.

Figure 5  
 PLTW Students' Mean Science Scores by  
 College-preparatory Science Courses Completed



■ Completed Four Years CP Science      ■ Did Not Complete Four Years CP Science

Source: Special analyses of 2004 *HSTW* Assessment data

Note: The difference in the mean scores for mathematics between the two groups is significant at  $p \leq .05$  based on the *t* test.

Further, more PLTW students who completed the recommended number of mathematics and science courses had mean scores at the proficient and advanced levels on the mathematics and science subtests of the 2004 *HSTW* Assessment. (See Table 2.) However, it is unacceptable that students can complete four years of college-preparatory level mathematics and science and still 18 percent and 30 percent respectively perform below the basic level.

Table 2  
 Percentages of PLTW Students Scoring at Each Proficiency Level on the  
*HSTW* Assessment by Completion of Mathematics and Science Curriculum

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient and Above</b>
<b>Completed Four Years CP Mathematics</b>	18%	41%	41%
<b>Did Not Complete Four Years CP Mathematics</b>	42	48	10
<b>Completed Four Years CP Science</b>	30%	29%	42%
<b>Did Not Complete Four Years CP Science</b>	43	22	35

**Source:** Special Analyses of 2004 *HSTW* Assessment Data

**Note:** The differences in the percentages for level of performance in mathematics between groups are significant at  $p \leq .001$  based on the chi-square test.

These results suggest that a way to increase the achievement scores of PLTW students is to ensure that *all* PLTW students take four years of college-preparatory mathematics and science and to improve the quality of mathematics and science instruction that they receive.

### **Do PLTW students experience more engaging instruction in mathematics and science classes and across the curriculum?**

PLTW students not only take more demanding mathematics and science courses but are also more likely to have engaging classroom learning experiences.

*HSTW* has developed indicators that describe classroom practices and activities relating to student engagement in mathematics and science instruction, and in literacy across all classes. Following are *HSTW*'s key indicators of engaging mathematics instruction:

---

## *HSTW* Key Indicators of Emphasis on Engaging Mathematics Instruction

### *Students reported that:*

- They took a mathematics class during their senior year.
- They took at least four full-year courses in mathematics in grades nine through 12.
- Their mathematics teachers showed them how mathematics concepts are used to solve real-life problems **sometimes or often**.
- They used graphing calculators to complete mathematics assignments **at least monthly**.
- They completed a mathematics project in ways that most people would use mathematics in a work setting **at least monthly**.
- They orally defended a process they used to solve a mathematics problem **at least monthly**.
- They worked with one or more students on a challenging mathematics assignment and received a group and individual grade **at least monthly**.
- They worked in groups to brainstorm how to solve a mathematics problem **at least monthly**.
- They solved mathematics problems with more than one answer **at least monthly**.
- They solved mathematics problems other than those found in the textbook **at least monthly**.
- They used mathematics to complete challenging assignments in their career/technical area **at least monthly** (CTE students only).

**Intensive:** eight to 11 indicators

**Moderate:** four to seven indicators

**Low:** three or fewer indicators

These are *HSTW*'s key indicators of engaging science instruction:

### *HSTW* Key Indicators of Emphasis on Engaging Science Instruction

***Students reported that:***

- They completed any three of the following science courses: college-preparatory physical science, college-preparatory biology/biology 2, anatomy, college-preparatory chemistry, physics or Advanced Placement science.
- Science teachers showed how scientific concepts are used to solve problems in real life **often**.
- They took a science class in their senior year.
- They used science equipment to do science activities in a lab with tables and sinks **at least weekly**.
- They read an assigned book or article dealing with science **at least monthly**.
- They used science equipment to do science activities in a classroom **at least monthly**.
- They worked with one or more students on a challenging science assignment **at least monthly**.
- They prepared a written report of lab results in science **at least monthly**.

**Intensive:** six to eight indicators

**Moderate:** three to five indicators

**Low:** two or fewer indicators

Following are *HSTW*'s key indicators of literacy in all classes:

### *HSTW* Key Indicators of Emphasis on Literacy

#### ***Students reported that:***

- They used word-processing software to complete an assignment or project **often**.
- They revised their essays or other written work several times to improve their quality **often**.
- They wrote in-depth explanations about a class project or activity **sometimes or often**.
- They discussed or debated with other students about what they read in English/language arts classes **at least monthly**.
- They read and interpreted technical books or manuals to complete assignments in their career/technical area **at least monthly** (CTE students only).
- They read an assigned book outside of class and demonstrated that they understand the significance of the main idea **at least monthly**.
- They spent **two or more hours** reading non-school related materials outside of class in a typical week.
- They completed short writing assignments of one to three pages in their English classes **at least monthly**.
- They completed short writing assignments of one to three pages in their science classes **at least monthly**.
- They completed short writing assignments of one to three pages in their social studies classes **at least monthly**.

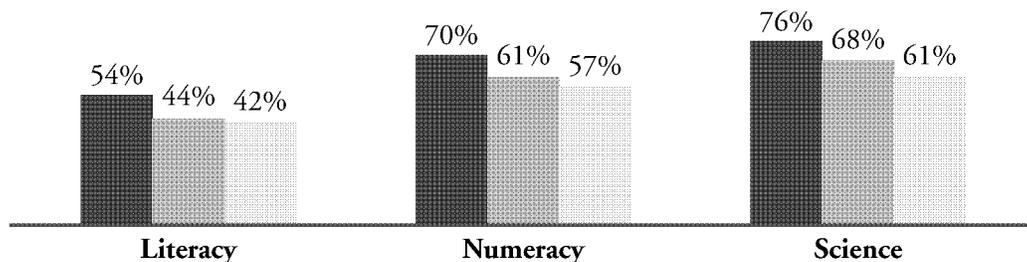
**Intensive:** seven to 10 indicators

**Moderate:** four to six indicators

**Low:** three or fewer indicators

**Significantly more students in the PLTW program are in classes that engage them in reading and writing across the curriculum and in mathematics and science classes that engage them in solving real-world problems, working in teams and making greater use of technology.** (See Figure 6.) Poor quality, non-engaging classroom instruction may provide a partial explanation of why one out of five students and three out of 10 students perform below basic in mathematics and science achievement respectively.

Figure 6  
 Percentages of Students Having Moderate or Intensive Emphasis on Literacy, Numeracy and Science



■ 274 PLTW Students      ■ 274 CTE Students from Similar Fields      ■ 274 CTE Students from All Fields

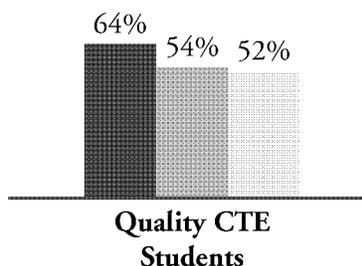
Source: Special analyses of 2004 *HSTW* Assessment data

Note: The differences in the percentages among groups are significant at  $p \leq .05$  based on the chi-square test.

## Do PLTW students have a richer set of learning experiences in their career/technical courses?

PLTW stresses the importance of engaging students in challenging assignments that require them to apply academic and technical knowledge and skills to complete real-world projects. *HSTW* has developed indicators related to instructional effectiveness and student achievement in career/technical classes. It was hypothesized that the PLTW students would have richer set of learning experiences in career/technical courses as measured by the *HSTW* indicators than other similar students. **In fact, significantly higher percentages of PLTW students experienced high-quality career/technical studies.** (See Figure 7.)

Figure 7  
 Percentages of Students Having a Moderate or Intensive Emphasis on Quality Career/Technical Studies



■ 274 PLTW Students      ■ 274 CTE Students with Similar Fields      ■ 274 CTE Students from All Fields

Source: Special analyses of 2004 *HSTW* Assessment data

Note: The differences in the percentages among groups are significant at  $p \leq .05$  based on the chi-square test.

---

## *HSTW* Key Indicators of Quality Career/Technical Studies

### *Students reported that:*

- They spent **one hour or more** reading non-school-related materials in a typical week.
- They used mathematics to complete challenging assignments in their career/technical area **at least weekly**.
- They read and interpreted technical books and manuals to complete career/technical assignments **at least weekly**.
- They read a career-related article and demonstrated understanding of the content **at least monthly**.
- They used computer skills to do assignments in their career/technical studies **at least monthly**.
- They had challenging assignments in career/technical classes **at least monthly**.
- They completed a project that first required some research and a written plan.
- They had to meet certain standards on a written exam to pass a course.
- They were required to complete a senior project that included researching a topic, creating a product or performing a service and presenting it to the class or others
- They spoke with or visited someone in a career to which they aspire.
- They spent **30 minutes or more** each day on homework assigned by career/technical teachers.

**Intensive:** eight to 11 indicators

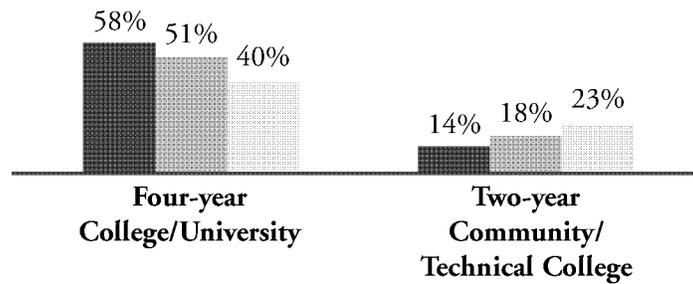
**Moderate:** five to seven indicators

**Low:** four or fewer indicators

## **Are PLTW students more likely than other career/technical students to attend a four-year college or university?**

One of the goals of the PLTW program is to encourage more students to pursue further education and careers in the field of engineering and related fields at the technician level. Seventy-two percent of PLTW students planned to attend a community college, technical school or four-year college or university. In the sample of students from comparable career/technical fields, 69 percent planned to attend a postsecondary institution, and among students from all career/technical fields, 63 percent planned to attend college. When compared with both matched sample groups, there were slightly higher percentages of PLTW students planning to attend a four-year institution. (See Figure 8.) PLTW students are more likely to pursue postsecondary studies and be successful because of the discipline of their high school studies than are other career/technical students.

Figure 8  
Percentages of Students Planning Postsecondary Study



■ 274 PLTW Students

■ 274 CTE Students from Similar Fields

■ 274 CTE Students from All Fields

Source: Special analyses of 2004 *HSTW* Assessment data

## Implications for Improving Other Career/Technical Programs

What lessons can state career/technical leaders take from the PLTW pre-engineering curriculum to apply to other career fields? The results of the analyses of PLTW students suggest that to improve the quality of high school career/technical studies, these actions need to be taken:

- Invest in developing high-quality instructional and curriculum guides that define course objectives, outline the content to be covered, and provide challenging, authentic projects — projects that require students to apply academic and technical knowledge.
- Require teachers for each course to participate in two weeks of training that strengthens their knowledge and skills in relevant underlying academic and technical content. Help them use a project- and problem-based instructional pedagogy and learn how to assess academic and technical achievement based on this type of instruction.
- Create end-of-course exams that teachers can use to determine whether their students have met course expectations and standards.
- Provide training to counselors so they understand the program of studies, the need for preparation in terms of the job market, and the sequence of courses students must take.
- Define the sequence of mathematics, science and career/technical courses that students are expected to complete. Have schools commit to requiring that students complete the sequence of challenging academic courses.

- 
- Seek out faculty in postsecondary technical and career programs that relate to your programs and form a team that will work to align the curriculums of the secondary and postsecondary programs. It may take a superintendent-to-dean or some other official connection to get a team formed and operating. The alignment work can be done in phases to make the workload manageable and to develop an alignment process that works for both faculties.
  - Only invest in such a program when the school district is willing to modernize laboratories and acquire the necessary equipment and instructional supplies.

## **Implications for Improving the PLTW Pre-engineering Program**

National and state leaders for PLTW can improve the achievement of their students by doing the following:

- Continue to stress to PLTW teachers, counselors and school leaders that PLTW students are to complete four years of mathematics — Algebra I and higher — and four years of lab-based science courses.
- Provide special workshops and model project units in which PLTW teachers work with mathematics and science teachers to plan and carry out integrated projects that blend together the learning of mathematics, science and technical concepts.
- Train PLTW teachers how to integrate into their project units strategies that will engage students frequently in reading, interpreting and analyzing technical materials, and writing technical reports.
- Provide materials, workshops and online support to improve the rigor and quality of mathematics and science instruction at the high schools participating in PLTW.

---

This publication is supported by Project Lead the Way. The opinions expressed here do not necessarily reflect the positions or policies of the funding entity, and no official endorsement should be inferred.

## Documentation Overview

### Criterion (C)(1)

This document provides a guide to the various pieces of additional documentation that demonstrate that Kentucky fully meets the America COMPETES Act.

Document	Contents	America COMPETES Act elements
C1 Appendix - Comparison to DQC elements.pdf	Compares each America COMPETES Act element to the 10 Data Quality Campaign elements in the context of Kentucky's SLDS	All 12 addressed
C1 Appendix - P-20 Data Collaborative MOA.pdf	Provides the contractual agreement between the state department and higher education agencies	America COMPETES Act item(s) 4, 12
C1 Appendix - P-20 Data Collaborative.pdf	Provides the organizational chart of the P-20 Data Collaborative	America COMPETES Act item(s) 4, 12
C1 Appendix - ILP for Parents overview.pdf	Provides an overview of the Individual Learning Plan to inform parents	America COMPETES Act items 11
C1 Appendix - Data Quality Issue resolution sample.pdf	Provides an example of a data issue flagged via data audit system	America COMPETES Act items 5
C1 Appendix - KSLDS Report ESS Progress Towards Proficiency sample.pdf	Provides report on whether students who participate in Extended School Services are likely to reach Proficiency by the goal of 2014	America COMPETES Act items 2, 6
C1 Appendix - High School Feedback report sample.pdf	Provides a sample High School Feedback report	America COMPETES Act items 4, 10, 11
C1 Appendix - KDE Web High School Transcript directive.pdf	Provides directive that all schools add the unique student ID to transcripts by Fall, 2008	America COMPETES Act items 1, 4, 9,10

Comparison of 12 America COMPETES Act Elements to 10 Data Quality Campaign elements in Kentucky's Statewide Longitudinal Data System

<b>America COMPETES Act Element</b>	<b>Data Quality Campaign Element</b>	<b>Kentucky's response</b>
1. A unique statewide student identifier that does not permit a student to be individually identified by users of the system	1. Statewide student identifier	The Kentucky Department of Education implemented a statewide, unique, student identifier in 2005, prior to the development of an SLDS. Implementation of the identifier was facilitated by the Commonwealth's single, statewide student information system (SIS).
2. Student-level enrollment, demographic, and program participation information	2. Student-level enrollment data	Student level enrollment, demographic, and program participation info have been included within the SLDS since 2007. These data are currently populated from the Kentucky Core Content Test booklet information as well as from the student data collected by the statewide SIS.
3. Student-level information about the points at which students exit, transfer in, transfer out, drop out, or complete P-16 education programs	8. Student-level graduation and dropout data	Detailed data describing the points at which students enter and exit the P-12 educational environment are collected by the statewide SIS and entered into the SLDS.
4. The capacity to communicate with higher education data systems	9. Ability to match student-level P-12 and higher education data	Various ad-hoc systems already provide the capacity to share data electronically between P-12 and post-secondary. These systems have been able to contribute data, such as High School feedback data, into the Kentucky SLDS.
5. A State data audit system assessing data quality, validity, and reliability	10. A state data audit system	Data quality audits currently take place primarily at two places: A) at the primary point of data collection, such

		as the state-level SIS repository; and B) at the Kentucky SLDS, where data from various systems are collected together for analysis and reporting. Similar data from different systems can be reviewed for consistency and to make sure they match previous formats.
6. Yearly test records of individual students with respect to assessments under section 1111(b) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6311(b))	3. Student-level test data	Test records for individual students have been available within the SLDS since 2007. Current assessments include the Kentucky Core Content Assessment, ACT, PLAN, and Explore.
7. Information on students not tested by grade and subject	4. Information on untested students	Data on untested students currently exists within the SLDS. It is collected as part of the annual Kentucky Core Content Test cycle and provided to the KSLDS along with student-level assessment results.
8. A teacher identifier system with the ability to match teachers to students	5. Statewide teacher identifier with a teacher-student match	The Kentucky SLDS contains detailed course information along with detailed and unique information about educators and students. This course information provides a connection between teachers with students.
9. Student-level transcript information, including information on courses completed and grades earned	6. Student-level course completion (transcript) data	Student-level course completion and grades earned data are collected by the student information system and provided to the Kentucky SLDS. Student transcripts provided to Institutions of Higher Education contain the unique student identifier.

10. Student-level college readiness test scores	7. Student-level SAT, ACT, and Advanced Placement exam data	ACT data are currently in place within the Kentucky SLDS and are utilized in multiple reports and analytics.
11. Information regarding the extent to which students transition successfully from secondary school to postsecondary education, including whether students enroll in remedial coursework	9(a). Ability to match student-level P-12 and higher education data	Student transcripts provided to Institutions of Higher Education contain the unique student identifiers, enabling Institutions of Higher Education to report on and link students' postsecondary performance / transition information to those students' high school performance
12. Other information determined necessary to address alignment and adequate preparation for success in postsecondary education	9(b). Ability to match student-level P-12 and higher education data	Student transcripts provided to Institutions of Higher Education contain the unique student identifier, thereby enabling the linking of data from secondary and postsecondary sources. Any other information...? This will allow the evaluation and analysis required once these other items are determined

**MEMORANDUM OF AGREEMENT  
KENTUCKY DEPARTMENT OF EDUCATION (KDE)  
COUNCIL ON POSTSECONDARY EDUCATION (CPE)  
EDUCATION PROFESSIONAL STANDARDS BOARD (EPSB)**

**P-20 DATA COLLABORATIVE**

**WHEREAS**, Kentucky has engaged in significant reforms of its educational system beginning with the passage of the Kentucky Education Reform Act of 1990 (KERA) in 1990, following with the Postsecondary Education Improvement Act of 1997, the Adult Education Act of 2000, and the Kentucky Innovation Act of 2000; and,

**WHEREAS**, the success of these reform efforts individually and collectively is dependent, in part, upon cooperation and collaboration between and among the groups and agencies who administer the reforms; and,

**WHEREAS**, there is a need to perform policy and applied research across the P-20 spectrum, from pre-kindergarten through college and beyond, and a need to analyze data without regard to the source of the data; and,

**WHEREAS**, the existence of federal and state laws requiring that student data be protected requires that formal safeguards be in place to ensure that confidentiality is maintained while joint research and analysis are conducted; and,

**WHEREAS**, it has been determined that a collaborative arrangement is the best method to ensure that proper accountability measures are in place for the evaluation of educational programs spanning these three agencies, that proper safeguards are in place to protect personally identifiable data consistent with state and federal law, and that the entities who are responsible for collecting, analyzing and using data from various parts of the educational system are willing to share data with other partners consistent with federal and state restrictions;

**NOW THEREFORE**, the Kentucky Department of Education (KDE), the Council on Postsecondary Education (CPE), and the Education Professional Standards Board (EPSB), do hereby enter into this Memorandum of Agreement for the purpose of creating a P-20 Data Collaborative to oversee the project of merging P-20 data and making it available for reporting, analysis and research.

**SECTION 1. The P-20 Data Collaborative**

1. The parties through this Memorandum of Agreement hereby establish the P-20 Data Collaborative for the purpose of merging P-20 data to facilitate educational research and development of reports; provide feedback to Kentucky's educational institutions; and get information into the hands of stakeholders.

2. The parties hereby establish a governing board consisting of the chief executive officers of the three participating agencies: the Commissioner of KDE, the President of the CPE, and the Executive Director of the EPSB. The parties further agree that the Secretary of the Education and Workforce Development Cabinet shall be a full member and chair of the governing board of the P-20 Data Collaborative.
3. Decisions of the governing board shall be made by unanimous consent.
4. The governing board may create work groups to carry out specific aspects of the overall project.
5. The governing board shall have final authority over all aspects of the Collaborative, including, but not limited to, timeline, roles, responsibilities, project objectives, expenditure approval processes, main stakeholders, scope and participants.
6. Each party remains the owner of its own data.
7. The parties agree that business rules governing access to and the use of the data shall be developed during the planning year.

## **SECTION 2. Term of the Agreement**

This agreement shall become effective on the date that it is fully executed by the parties and shall remain in force through April 30, 2012. Any extension of the current agreement shall be by unanimous consent of the parties.

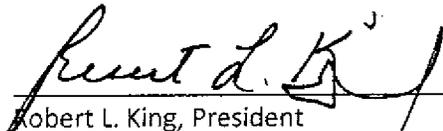
## **SECTION 3. General Terms**

1. The parties agree that the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this agreement for the purpose of financial audit or program review. Furthermore, any books, documents, paper records, or other evidence provided to the Kentucky Department of Education (KDE), the Council on Postsecondary Education (CPE), or the Education Professional Standards Board (EPSB), the Finance and Administration Cabinet, the Auditor of Public Accounts, or the Legislative Research Commission which are directly pertinent to the Memorandum shall be subject to public disclosure regardless of the proprietary nature of the information, unless specific categories of information are identified and exempted and agreed to by the Secretary of the Finance and Administration Cabinet as meeting the provisions of KRS 61.878(1) prior to the execution of the Memorandum, or if the excluded information meets the provisions of KRS 164.6014(6). The Secretary of the Finance and Administration Cabinet shall not restrict the public release of any information that

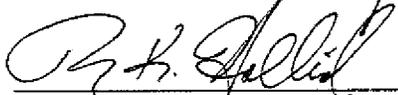
would otherwise be subject to public release if a state government agency was providing the services.

2. This agreement may be cancelled by any member of the P-20 Data Collaborative with thirty (30) days written notice to the other parties.
3. This agreement may be amended at any time with unanimous consent of the governing board in writing.

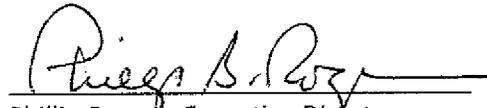
Approved:

  
Robert L. King, President  
Council on Postsecondary Education

8/20/09  
Date

  
Terry Holliday, Commissioner  
Kentucky Department of Education

8-20-09  
Date

  
Phillip Rogers, Executive Director  
Education Professional Standards Board

8-20-09  
Date

**APPROVED AS TO FORM AND LEGALITY:**

  
Dennis L. Taulbee, General Counsel  
Council on Postsecondary Education

8-18-09  
Date

  
Kevin C. Brown, General Counsel  
Kentucky Department of Education

8-18-09  
Date

  
Alicia Sheed, General Counsel  
Education Professional Standards Board

8-18-09  
Date

HAVE SEEN AND AGREED TO:

(b)(6)

Helen W. Mountjoy, Secretary  
Education and Workforce Development Cabinet

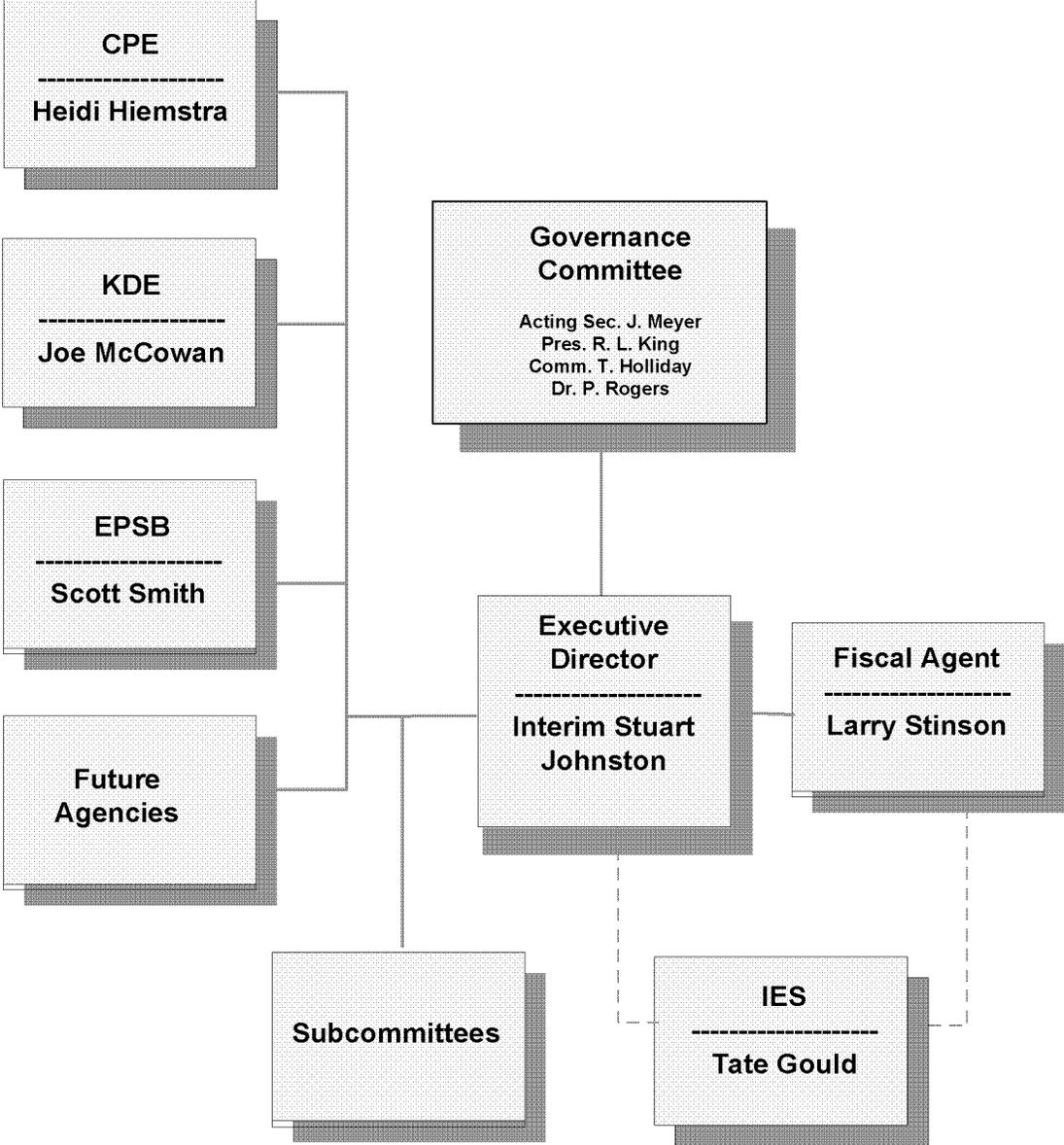
8/20/09  
Date

(b)(6)

Randall K. Justice, General Counsel  
Education and Workforce Development Cabinet

8/19/09  
Date

# P20 Data Collaborative



## For Parents: What is the ILP?

Students across Kentucky are required to complete an Individual Learning Plan (ILP). The Career Cruising ILP Tool is designed to help students bring together their academic achievements, extracurricular experiences, and career and education exploration activities. This enables the student, parents or guardians, teachers, and counselors to work together to develop a course of study that meets the student's needs and goals.

The **Student ILP Tool** allows students to:

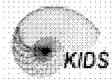
- Record their career, education, and life goals.
- Bookmark careers and schools that are of interest to them and include their thoughts about each.
- Explore the Kentucky Career Clusters and track the clusters that interest them.
- Store their results from standardized tests and assessments, including Career Matchmaker
- Keep track of their career and educational exploration activities.
- Record their extracurricular activities, hobbies, and interests.
- Document their community services and work experience.
- Develop their four-year high school education plan.
- List awards and recognitions they have received.
- Document learning services and programs they have participated in.
- Upload related files, such as essays, scanned artwork, and letters of reference.
- Create personalized, professional-looking resumes.

The **Parent/Guardian ILP Tool** allows you to:

- View the work your child has entered in his or her ILP.
- Learn more about the careers and schools that are of interest to your child.
- Record your thoughts and comments about your child's learning plan.
- Email your comments to your child's advisors.

**To log into the Parent ILP Tool, go to [www.careercruising.com/ILP/](http://www.careercruising.com/ILP/) and enter your parent/guardian username and password.**

**Please contact your child's career advisor for your Parent/Guardian ILP Tool login information.**



Education Portal &gt; KIDS &gt; KIDS Project &gt; Data Quality Issues &gt; Data Quality Issue

## Data Quality Issues: Data Quality Issue

New Item | Edit Item | Delete Item | Manage Permissions | Alert Me | Version History

<b>Issue</b>	2008 Kossa data has 641 duplicate records (based on SSID, Student Name and District/Location Code) Also had 119 records where the District Number does not match the official KDE District Code, and 185 records where the Location Code does not match the official KDE Location Code. The total number of records in the file was 12224.
<b>Issue Status</b>	Active
<b>Comments</b>	Dillard, Marvin (5/15/2009 10:25 AM): File of errors provided to Mary, who forwarded the file to Pam for corrections. The data was not loaded into the warehouse.
<b>Priority</b>	(2) Normal
<b>Due Date</b>	
<b>Assigned To</b>	Lowe, Mary - Office of Internal Administrative & Support
<b>Data Loaded</b>	No
<b>Number of Occurances</b>	
<b>Data Year</b>	School Year 2008
<b>eScholar Template</b>	Student
<b>Primary Source</b>	KOSSA 2008 Data file
<b>Source Column</b>	
<b>Decision</b>	This represents an error rate of about 7.7 percent which is definately acceptable for data warehouses. The data is loaded with a goal of reducing the error rate in future years.
<b>Related Issues</b>	
<b>Title</b>	Data Quality Issue
<b>Category</b>	(2) Category2

Version: 1.0

Created at 5/15/2009 10:25 AM by Dillard, Marvin

Last modified at 5/15/2009 10:25 AM by Dillard, Marvin

**PTP1**

**NON-CONFIDENTIAL**

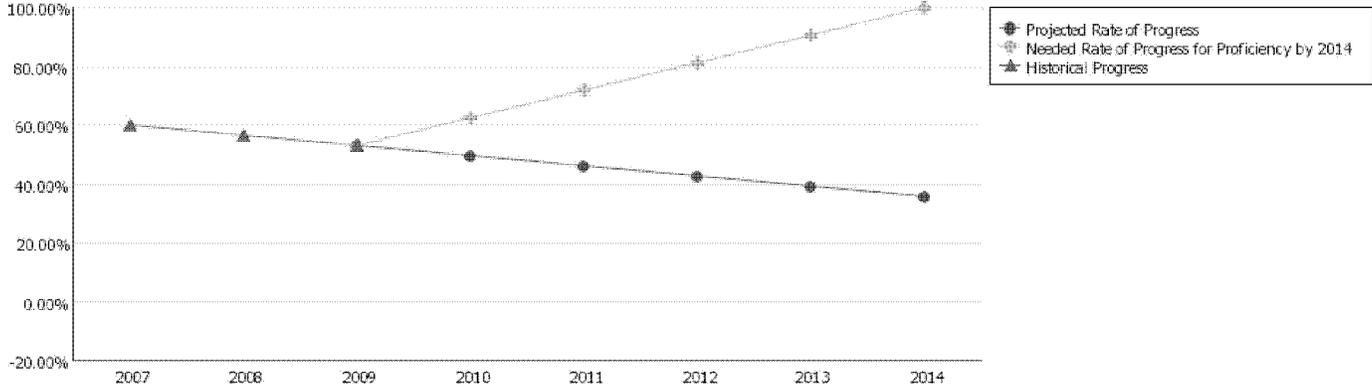
# PROGRESS TOWARD PROFICIENCY

Mathematics  
 Adair County (001000)  
 Adair County High School (001010)  
 Grade(s) 11  
 Extended School Services

Graphical representation of path to proficiency by subject, grade, or disaggregated group based on current rate of improvement in academic index (change from SYE 2006 TO 2007) and the projected improvement rate needed to reach an academic index of 100 by 2014 from the 2007 value.

## EXT

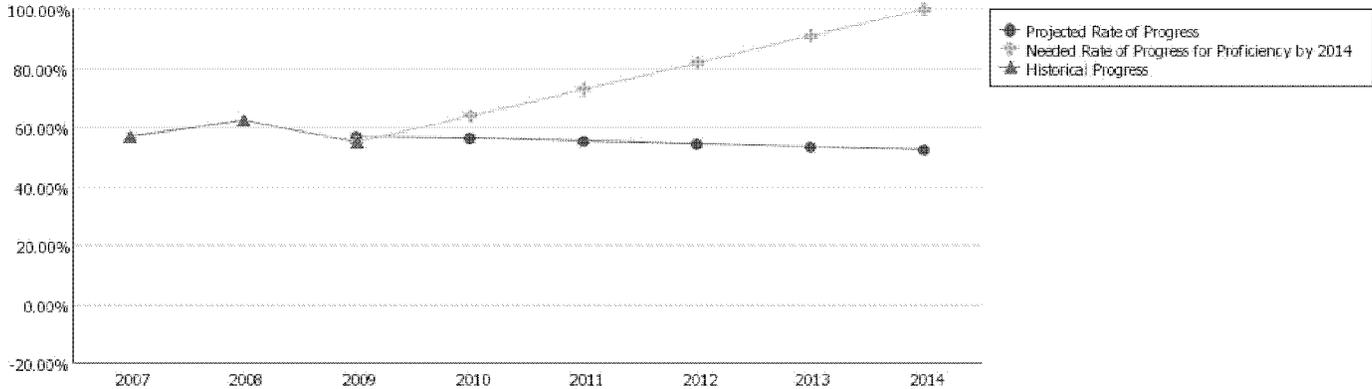
**%P/D vs. School Year**



%P/D	2007	2008	2009	2010	2011	2012	2013	2014
Historical Progress	60.19%	56.73%	53.19%					
Needed Rate of Progress for Proficiency by 2014			53.19%	62.55%	71.91%	81.28%	90.64%	100.00%
Projected Rate of Progress			53.21%	49.72%	46.22%	42.73%	39.24%	35.74%

## EXT\_After

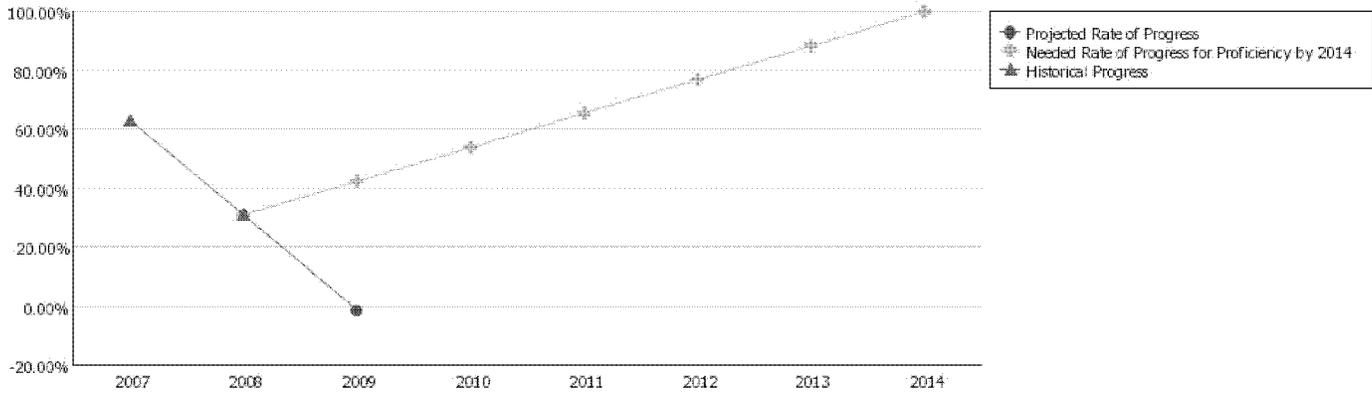
**%P/D vs. School Year**



%P/D	2007	2008	2009	2010	2011	2012	2013	2014
Historical Progress	57.14%	62.50%	55.26%					
Needed Rate of Progress for Proficiency by 2014			55.26%	64.21%	73.16%	82.11%	91.05%	100.00%
Projected Rate of Progress			57.36%	56.42%	55.48%	54.54%	53.60%	52.66%

## EXT\_During

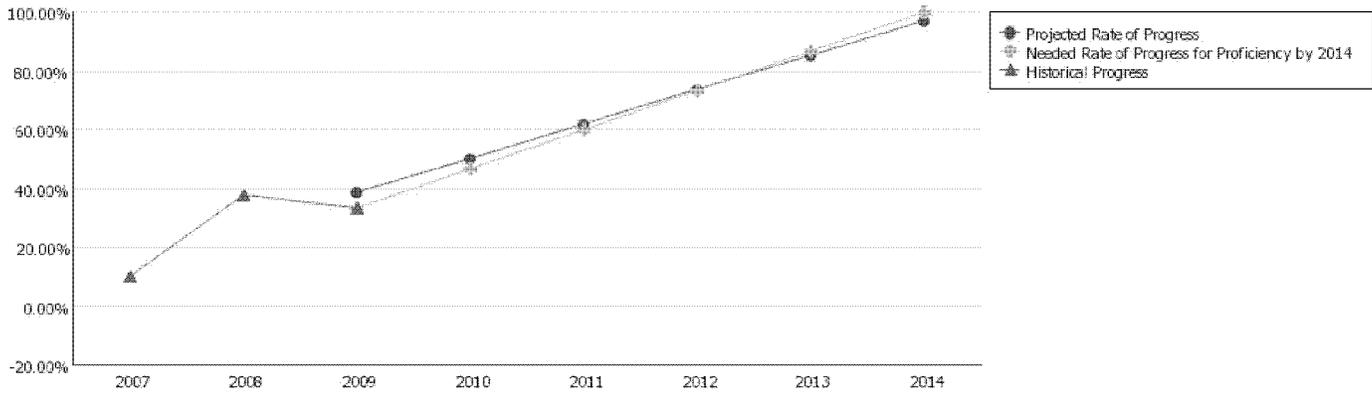
### %P/D vs. School Year



%P/D	2007	2008	2009	2010	2011	2012	2013	2014
Historical Progress	62.92%	30.77%						
Needed Rate of Progress for Proficiency by 2014		30.77%	42.31%	53.85%	65.38%	76.92%	88.46%	100.00%
Projected Rate of Progress		30.77%	-1.37%					

### EXT\_Summer

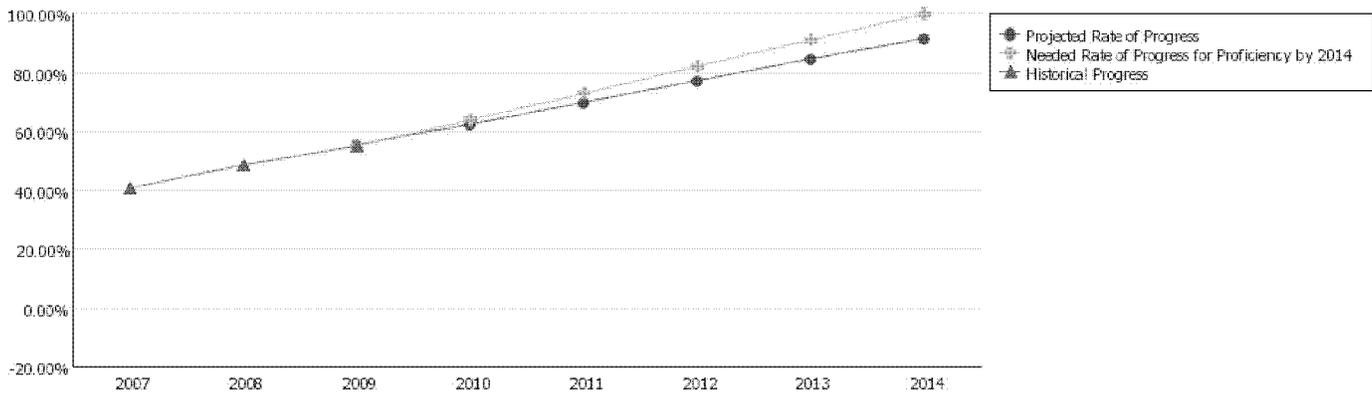
### %P/D vs. School Year



%P/D	2007	2008	2009	2010	2011	2012	2013	2014
Historical Progress	10.00%	37.93%	33.33%					
Needed Rate of Progress for Proficiency by 2014			33.33%	46.67%	60.00%	73.33%	86.67%	100.00%
Projected Rate of Progress			38.75%	50.42%	62.09%	73.75%	85.42%	97.08%

### Not in EXT Program

### %P/D vs. School Year



%P/D	2007	2008	2009	2010	2011	2012	2013	2014
Historical Progress	40.79%	48.51%	55.38%					
Needed Rate of Progress for Proficiency by 2014			55.38%	64.31%	73.23%	82.15%	91.08%	100.00%
Projected Rate of Progress			55.53%	62.83%	70.12%	77.42%	84.72%	92.02%

Data source(s): KCCT test results from OAA.



Please help KDE to continuously improve KSLDS functionality and usefulness by telling us how you use this report. Send your comments by email to: [KSLDSFeedback@education.ky.gov](mailto:KSLDSFeedback@education.ky.gov)



*This report generated from the Kentucky Statewide Longitudinal Data System (KSLDS) by (Hackworth, Robert - Secondary & Virtual Learning)*  
Jan 13, 2010 1

11:02:00 AM

# Kentucky High School Feedback Report Class of 2004

Adair County High School  
Adair County Schools

The Kentucky High School Feedback Report is collaboratively produced by Kentucky's Council on Postsecondary Education (CPE), the Kentucky Department of Education (KDE), and the Kentucky Higher Education Assistance Authority (KHEAA) with the assistance of ACT, Inc., and The College Board. Its purpose is to provide information about this school's 2004 class of high school seniors including the number who matriculated to a postsecondary institution in Kentucky and how well they performed compared to their peers from the district and the state as a whole.

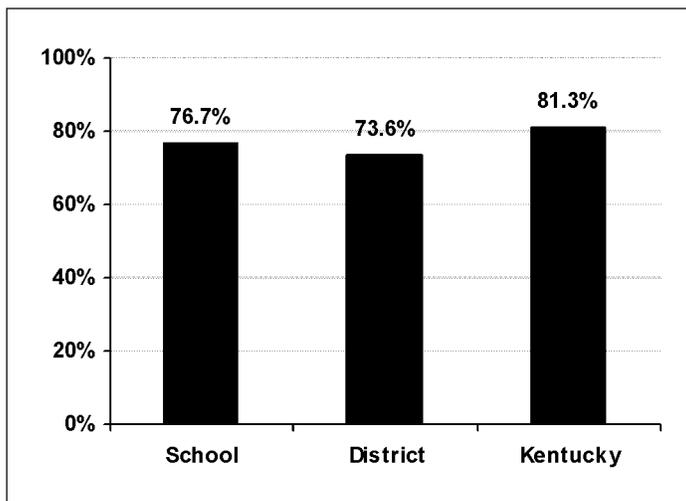
## A. Basic Information About the Class of 2004

District numbers may include alternative high schools. Refer to the Technical Notes for explanation of blanks.

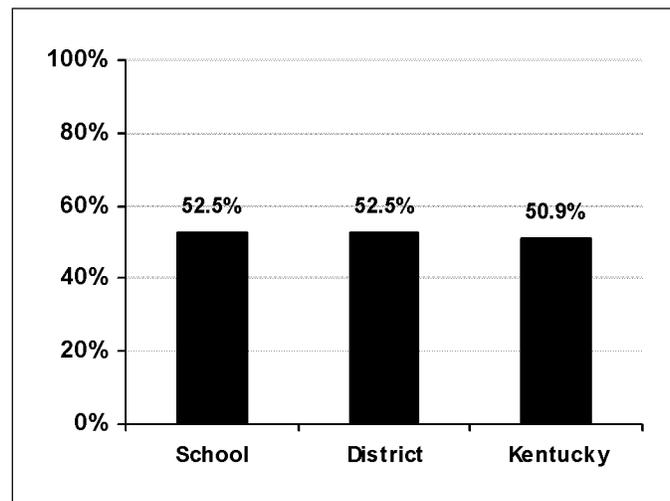
	School	District	Kentucky
1. Number of high school graduates:	151	156	41,328
2. Mean cumulative high school GPA:	2.70	2.70	2.81
3. Mean ACT scores for this class:			
English	17.5	17.5	20.0
Reading	19.4	19.4	21.4
Mathematics	17.9	17.9	19.9
Science	19.3	19.3	20.7
Composite	18.6	18.6	20.7
4. Number of Advanced Placement (AP) tests taken by members of this class:	2	2	7,848
5. Percentage of Advanced Placement (AP) tests with scores of 3 or higher (the minimum necessary to receive college credit):			46.2%
6. Mean Kentucky Educational Excellence Scholarship (KEES) award earned by members of this class:	\$896	\$896	\$1,054
7. High school graduation rate:	76.7%	73.6%	81.3%
8. In-state college-going rate:	52.5%	52.5%	50.9%

Important School Statistics	
High school graduation rate:	76.7%
In-state college going rate:	52.5%
Percentage with developmental needs in one or more subjects:	68.8%
Percentage with developmental needs in English:	48.1%
Percentage with developmental needs in mathematics:	59.7%
Six-year (bachelor's degree) postsecondary graduation rate for the class of 2000:	50.0%
Three-year (associate's degree at KCTCS) postsecondary graduation rate for the class of 2003:	0.0%

High School Graduation Rate



In-State College-Going Rate



# Kentucky High School Feedback Report Class of 2004

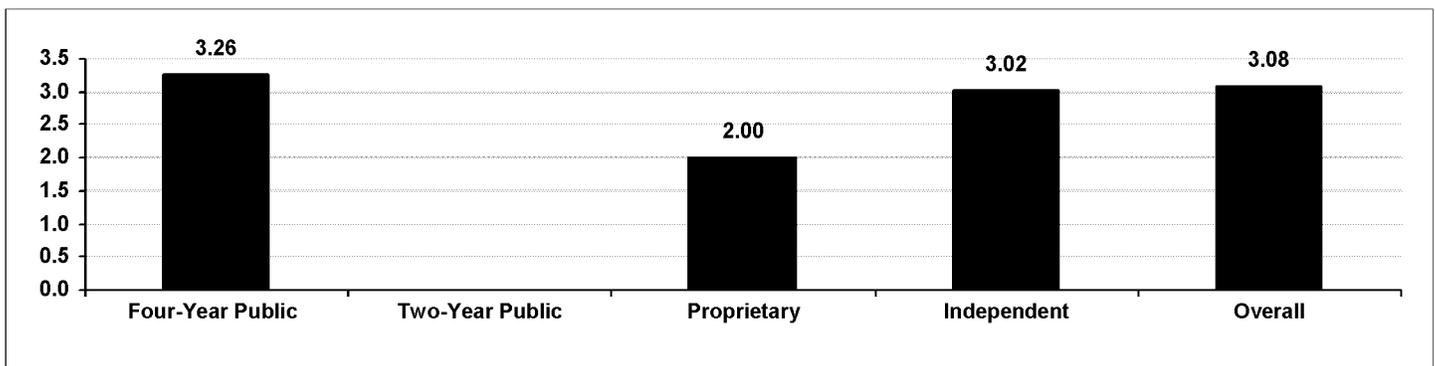
Adair County High School  
Adair County Schools

## B. In-State Postsecondary Enrollment Information

This information, with the exception of item B.7, is only available for the public colleges and universities in Kentucky and the independent institutions that participate in the CPE's comprehensive database. District numbers may include alternative high schools. Refer to the Technical Notes for explanation of blanks.

	School	District	Kentucky
1. Number and percentage of this school's 2004 high school graduates who enrolled as degree- or credential-seeking students at one of Kentucky's public or participating independent postsecondary institutions in summer or fall 2004 by institution type. These data are not available for proprietary schools.			
Four-year public university:	31 36.9%	31 36.9%	11,548 60.8%
Two-year public community or technical college (KCTCS):	3 3.6%	3 3.6%	4,298 22.6%
Participating independent college or university:	50 59.5%	50 59.5%	3,147 16.6%
Total:	84	84	18,993
2. Number and percentage who entered college as full-time students:			
	83 98.8%	83 98.8%	18,075 94.7%
3. Number and percentage who entered with undeclared degree status:			
	1 1.2%	1 1.2%	2,518 13.3%
4. Number and percentage who entered a certificate or diploma program:			
	0 0.0%	0 0.0%	377 2.0%
5. Number and percentage who entered an associate's (two-year) degree program:			
	12 14.3%	12 14.3%	3,896 20.6%
6. Number and percentage who entered a bachelor's (four-year) degree program:			
	71 84.5%	71 84.5%	12,161 64.2%
7. Mean cumulative high school GPA by postsecondary institution type:			
Four-year public university:	3.26	3.26	3.27
Two-year public community or technical college (KCTCS):			2.88
Participating independent college or university:	3.02	3.02	3.31
Proprietary college, university, or school:	2.00	2.00	2.73
Overall mean for students entering any postsecondary institution in Kentucky:	3.08	3.08	3.15

Mean Cumulative High School GPA by Postsecondary Institution Type



**B. In-State Postsecondary Enrollment Information (continued)**

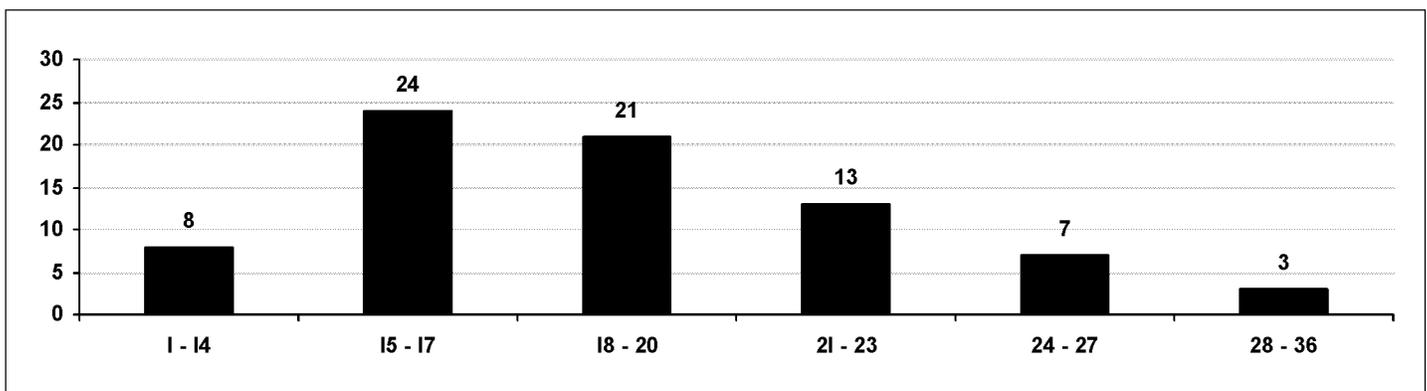
8. Mean ACT scores of postsecondary students who graduated in this school's class of 2004 by subject and institution type:

	School	District	Kentucky
<b>English</b>			
Four-year public university:	20.6	20.6	21.2
Two-year public community or technical college (KCTCS):			20.0
Independent college or university:	16.3	16.3	20.8
Overall mean for students entering any public or participating independent college or university:	18.0	18.0	21.1
<b>Reading</b>			
Four-year public university:	21.5	21.5	22.5
Two-year public community or technical college (KCTCS):			25.0
Independent college or university:	18.9	18.9	22.3
Overall mean for students entering any public or participating independent college or university:	19.8	19.8	22.4
<b>Mathematics</b>			
Four-year public university:	19.6	19.6	20.5
Two-year public community or technical college (KCTCS):			17.0
Independent college or university:	17.5	17.5	20.5
Overall mean for students entering any public or participating independent college or university:	18.4	18.4	20.7
<b>Science</b>			
Four-year public university:	20.7	20.7	21.6
Two-year public community or technical college (KCTCS):			22.0
Independent college or university:	19.2	19.2	21.3
Overall mean for students entering any public or participating independent college or university:	19.8	19.8	21.5
<b>Composite</b>			
Four-year public university:	20.4	20.4	21.1
Two-year public community or technical college (KCTCS):			21.0
Independent college or university:	17.8	17.8	21.2
Overall mean for students entering any public or participating independent college or university:	18.8	18.8	21.3

9. Percentage who enrolled in a public or participating independent institution in Kentucky and were identified as having developmental needs (an ACT subscore of less than 18 or an equivalent score on an alternative test by subject area):

English:	48.1%	48.1%	27.4%
Reading:	41.6%	41.6%	21.4%
Mathematics:	59.7%	59.7%	33.6%
Developmental needs in one or more subject areas:	68.8%	68.8%	44.5%

**Distribution of ACT Composite for Students Who Entered Postsecondary Education**



**C. Student Postsecondary Performance**

This information, with the exception of item C.7, is only available for the public colleges and universities in Kentucky and the independent institutions that participate in the CPE's comprehensive database. District numbers may include alternative high schools. Refer to the Technical Notes for explanation of blanks.

In Kentucky, ACT scores are used to determine if students need developmental courses before they take certain college level courses. Students are assessed as having developmental needs in English, mathematics, and reading if their ACT subscore is less than 18, or if they have an equivalent score on the SAT or another standardized placement exam. Much of the following academic performance data is presented to show how students with developmental needs perform compared to those without developmental needs.

<b>College Grades</b>	<b>School</b>	<b>District</b>	<b>Kentucky</b>
1. Percentage of this high school's 2004 class enrolling in college-level English during the first two years of college who earned a grade of "C" or better, by developmental need:			
All students:	93.8%	93.8%	84.2%
Students with an ACT English subscore less than 18 or equivalent:	78.6%	78.6%	76.2%
Students with an ACT English subscore of 18 or above or equivalent:	100.0%	100.0%	86.3%
2. Percentage of this high school's 2004 class enrolling in college-level mathematics during the first two years of college who earned a grade of "C" or better, by developmental need:			
All students:	70.0%	70.0%	74.1%
Students with an ACT mathematics subscore less than 18 or equivalent:	66.7%	66.7%	63.0%
Students with an ACT mathematics subscore of 18 or above or equivalent:	71.4%	71.4%	76.8%
3. Mean college GPA of this high school's 2004 class at the end of the first year in college:			
All students:	1.88	1.88	2.28
Students with developmental needs in one or more subjects:	1.61	1.61	1.78
Students without developmental needs:	2.59	2.59	2.68

**College Retention, Credit Hours, and KEES Awards**

Retention, credit hours earned, and KEES awards maintained are all influenced by a student's level of academic preparation. The following items are broken out by whether a student has developmental needs or not.

4. One semester postsecondary retention rate of enrolled freshmen (i.e., entered in fall 2004 and returned for the spring 2005 semester):			
All students:	91.2%	91.2%	89.1%
Students with developmental needs in one or more subjects:	85.0%	85.0%	83.4%
Students without developmental needs:	100.0%	100.0%	93.6%

**C. Student Postsecondary Performance (continued):**

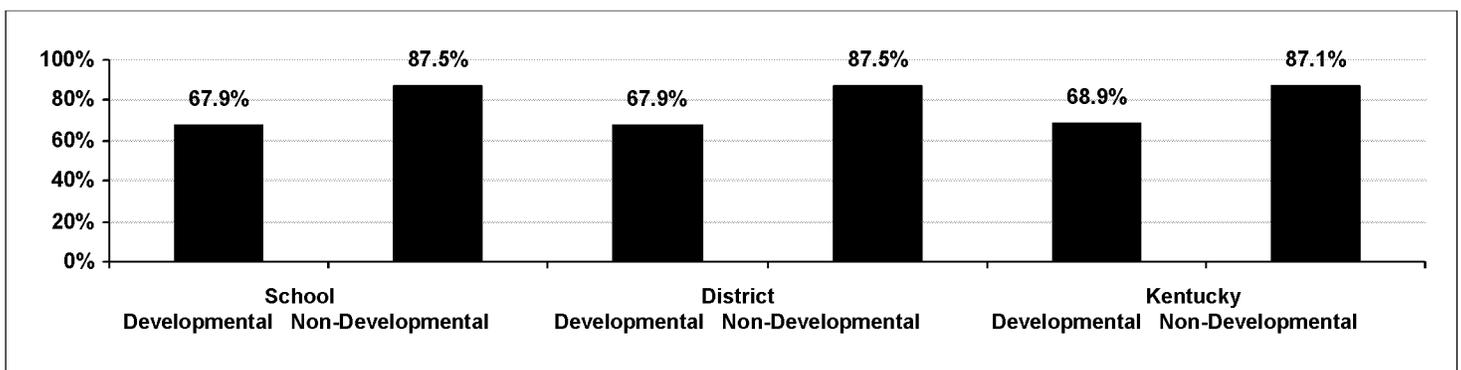
**College Retention, Credit Hours, and KEES Awards (continued)**

	School	District	Kentucky
5. First-to-second year postsecondary retention rate (i.e., entered in fall 2004 and returned for the fall 2005 semester):			
All students:	72.6%	72.6%	79.1%
Students with developmental needs in one or more subjects:	67.9%	67.9%	68.9%
Students without developmental needs:	87.5%	87.5%	87.1%
6. Median number of college credit hours earned during the first year in college:			
All students:	24.0	24.0	25.0
Students with developmental needs in one or more subjects:	21.5	21.5	22.0
Students without developmental needs:	26.5	26.5	28.0
7. Percentage of KEES recipients who maintained KEES awards for the second year:	58.3%	58.3%	60.6%

**College Graduation Rates for Former Graduates:**

8. Most recent graduation rate for students who graduated from this high school in 2003 and entered KCTCS in fall 2003 and earned an associate's degree within three years:	0.0%	0.0%	14.2%
9. Most recent graduation rate for students who graduated from this high school in 2000 and entered one of Kentucky's public four-year universities in fall 2000 and earned a bachelor's degree within six years:	50.0%	50.0%	48.2%

**First-to-Second Year Postsecondary Retention Rate**



# Kentucky High School Feedback Report Class of 2004

Adair County High School  
Adair County Schools

## D. Kentucky Institutions Students Entered

### Public Four-Year Universities:

Eastern Kentucky University	
Kentucky State University	1
Morehead State University	
Murray State University	2
Northern Kentucky University	
University of Kentucky	8
University of Louisville	4
Western Kentucky University	16

### Kentucky Community and Technical Colleges

Ashland Community and Technical College	
Big Sandy Community and Technical College	
Bluegrass Community and Technical College	
Bowling Green Technical College	
Elizabethtown Community and Technical College	
Gateway Community and Technical College	
Hazard Community and Technical College	
Henderson Community College	
Hopkinsville Community College	
Jefferson Community and Technical College	
Madisonville Community College	
Maysville Community and Technical College	
Owensboro Community and Technical College	
Somerset Community College	3
Southeast Kentucky Community and Technical College	
West Kentucky Community and Technical College	

### Independent Colleges and Universities

Alice Lloyd College	
Asbury College	
Bellarmino University	
Berea College	
Brescia University	
Campbellsville University	1
Centre College	1
Georgetown College	
Kentucky Christian University	
Kentucky Wesleyan College	
Lindsey Wilson College	47
Mid-Continent University	
Midway College	
Pikeville College	
Spalding University	
St. Catharine College	
Thomas More College	
Transylvania University	
Union College	
University of the Cumberlands	1

## E. College Majors

Undeclared	40
Agriculture, Agricultural Operations	5
Natural Resources and Conservation	
Architecture and Related Services	
Area, Ethnic, Cultural, and Gender Studies	
Communications, Journalism, and Related Programs	1
Communications Technologies/Technicians	
Computer and Information Sciences	3
Personal and Culinary Services	
Education	11
Engineering	2
Engineering Technologies/Technicians	
Foreign Languages, Literatures and Linguistics	
Family and Consumer Sciences/ Human Sciences	
Legal Professions and Studies	
English Language and Literature/Letters	
Liberal Arts and Sciences, General Studies	1
Biological and Biomedical Sciences	6
Mathematics and Statistics	
Multi/Interdisciplinary Studies	3
Parks, Recreation, Leisure, and Fitness Studies	1
Philosophy and Religious Studies	
Theology and Religious Vocations	1
Physical Sciences	1
Psychology	2
Security and Protective Services	1
Public Administration and Social Service Prof	
Social Sciences	1
Construction Trades	
Mechanics and Repair Technologies	
Precision Production	
Transportation and Materials Moving	
Visual and Performing Arts	1
Health Professions and Related Clinical Sciences	2
Business, Management, Marketing, Related Svcs	2
History	

NOTE: The information on this page is only available for the public colleges and universities in Kentucky and the independent institutions that participate in the CPE's comprehensive database. Majors not reported for some students.

# Kentucky Department of Education

## Student identifiers needed for P thru 20 data sharing SSID should be included on transcripts immediately

Last Updated on Wednesday, February 11, 2009 at 12:50 PM

RSS Available 

Please share the information found below with guidance counselors in your districts, since many student transcripts are generated at the school level. I will also be forwarding this message to district technology officers and pupil personnel directors.

Recent discussions with higher education officials have increased our determination to begin sharing data between P-12 schools, colleges, universities and other higher education entities.

The P-20 data system will provide crucial linkages between the work of our public elementary, middle and high schools and higher education institutions. This cooperative venture will enable us to make better decisions and improve services to all students and teachers in the state.

Your assistance is needed to implement this system. The first step is simple and cost-free, but it is crucial to create the longitudinal data linkages between P-12 schools and higher education.

Please ensure that the unique state student identification (SSID) numbers already in place in your district are placed on the academic transcript report in both of the existing school information systems (STI and Infinite Campus). Most of you already have completed this step, and those who have not should make this a priority.

**The SSID should be included on transcripts immediately to make it available to the higher education institutions for students entering in the fall of 2008.** The Kentucky Department of Education is working to secure funding for an electronic system that will provide this data to higher education entities automatically.

For those districts currently using STI, the SSID is automatically placed within the STI transcript report unless that functionality has been disabled. For Infinite Campus districts, this feature must be enabled at the district level by checking the State ID box when your district's transcripts are configured.

Thank you for your support during this process. Please contact the STI or Infinite Campus help desks if you need assistance to ensure placement of the SSID in electronic transcripts.

### For more information contact:

**Teresa Perry**

500 Mero Street, 1st Floor CPT

Frankfort, KY 40601

Phone: 502-564-3141

[Teresa.Perry@education.ky.gov](mailto:Teresa.Perry@education.ky.gov)

Copyright © 1999-2010 Commonwealth of Kentucky

# Data Quality: The Role of the Data Steward and Data Manager

## Definitions

**Data Steward:** nv rdqne` c` s` dkl dmsnqc` s` dkl cpr onrr hald enqg` ncr ,nmv ngj qk` sdc sn c` s` -

**Data Manager:** ` mlmchult` ` kr ( qloqr dmsnf ` mnehd v lsglmJCD v ngj lmf lmbnrit nbsmmv lsg sgd C` s` Onkbox Bnl l hedd bnnqplm` smf sgd v ngj nec` s` rslv` qpr ` mc trd nec` s` - Sgd c` s` l ` m f dqv lkr dqd ` r sgd nodq` smm onlmsnebnrs bsenq sgd JCD Dmscpqr d C` s` Clbsmmi q` nrc sgd l ds` c` s` bnns` hmlc v lsglm sgd clbsmmi q` - Sgd c` s` l ` m f dqv lkr dmt qd c` s` rslv` qpr ` qd odqnd lmf sgd qct stlr ` r qk` sdc sn JCD C` s` f nudqm nbd-

## RESPONSIBILITIES

You serve your supervisor by ensuring that the statistical information reviewed by your associate commissioner represents data that have been entered accurately and/or collected systematically. Furthermore, you enhance the information reporting process through staff development and collaboration with the various offices and programs responsible for producing data and information.

## THINGS TO THINK ABOUT

- Does the information reviewed by senior leadership represent facts based on accurate data from programs and offices?
- Does everyone in your office understand how data are used to benefit instructional programs, student achievement and funding for KDE and school districts?
- Are data collected systematically in KDE and collaboratively with all program offices?
- Are the staffs responsible for collecting and entering data trained to do an effective job?
- Is there a process in place that allows “end-users” to request or modify reports, request or modify data definitions in the enterprise data dictionary?
- Do you work collaboratively with technology support?

## THINGS TO DO

- Coordinate data collection processes through collaboration with other office data stewards, data managers and the Data Policy Committee (DPC).
- Audit and validate your data to ensure accuracy.
- Participate in a cross-agency team environment resolving data issues.
- Recommend data policies and processes to the DPC for adoption.
- Assist with the implementation of DPC data policies.
- Participate in the development of an enterprise data calendar; maintain and update.
- Participate in the development of an enterprise data dictionary; maintain and update.
- Coordinate with other stewards to ensure updates to the longitudinal data system (KSLDS).
- Participate and encourage professional development leading toward a Culture of Data Quality in KDE, schools and districts.
- Resolve discrepancies in information before reports are forwarded to executive leadership.
- Recommend a process to your DPC member that allows staff to request new reports or modifications of existing reports.
- Educate other office staff on the importance of data accuracy and data-based decisions.
- Collaborate with the technology support to enhance the ability of computer programs to determine effective editing procedures for reports and other information.

## OUTCOMES (WHAT’S IN IT FOR ME?)

By helping KDE, schools, districts and other staff members see the process that leads to data-driven decisions, you are directly involved in courses of action that lead toward improved student achievement and increased services to schools and districts.

Evidence for section (D)(1)

Please see below for description of the State's applicable laws, statutes, regulations, or other relevant legal documents, including information on the elements of the State's alternative routes as well as a list of the alternative certification programs operating in the State under the State's alternative routes to certification and the application requirements of each.

**161.048 Alternative certification program -- Purpose -- Options -- Testing and eligibility requirements -- Salary schedule.**

(1) The General Assembly hereby finds that:

- (a) 1. There are persons who have distinguished themselves through a variety of work and educational experiences that could enrich teaching in Kentucky schools;
2. There are distinguished scholars who wish to become teachers in Kentucky's public schools, but who did not pursue a teacher preparation program;
3. There are persons who should be recruited to teach in Kentucky's public schools as they have academic majors, strong verbal skills as shown by a verbal ability test, and deep knowledge of content, characteristics that empirical research identifies as important attributes of quality teachers;
4. There are persons who need to be recruited to teach in Kentucky schools to meet the diverse cultural and educational needs of students; and
5. There should be alternative procedures to the traditional teacher preparation programs that qualify persons as teachers.

(b) There are hereby established alternative certification program options as described in subsections (2) through (8) of this section.

(c) It is the intent of the General Assembly that the Educational Professional Standards Board inform scholars, persons with exceptional work experience, and persons with diverse backgrounds who have potential as teachers of these options and assist local boards of education in implementing these options and recruitment of individuals who can enhance the education system in Kentucky.

(d) The Education Professional Standards Board shall promulgate administrative regulations establishing standards and procedures for the alternative certification options described in this section.

(2) **Option 1:** Certification of a person with exceptional work experience. An individual who has exceptional work experience and has been offered employment in a local school district shall receive a one (1) year provisional teaching certificate with approval by the Education Professional Standards Board of a joint application by the individual and the employing school district under the following conditions:

- (a) The application contains documentation of all education and work experience;
- (b) The candidate has documented ten (10) years of exceptional work experience in the area in which certification is being sought;
- (c) The candidate possesses:

1. a. A minimum of a bachelor's degree, with a cumulative grade point average of two and five-tenths (2.5) on a four (4) point scale or a grade point average of three (3.0) on a four (4) point scale on the last sixty (60) hours of credit completed, including undergraduate

and graduate coursework from a nationally or regionally accredited postsecondary institution; or  
b. A graduate degree with a cumulative grade point average of two and five-tenths (2.5) on a four (4) point scale or a grade point average of three (3.0) on a four (4) point scale on the last sixty (60) hours of credit completed, including undergraduate and graduate coursework from a nationally or regionally accredited postsecondary institution; and

2. An academic major or a passing score on the academic content assessment designated by the Education Professional Standards Board; and

(d) The candidate shall participate in the teacher internship program under subsections (5), (6), (7), and (8) of KRS 161.030. After successful completion of the internship, the candidate shall receive a regular professional certificate and shall be subject to certificate renewal requirements the same as any other teacher with a regular professional certificate.

(3) **Option 2:** Certification through a local district training program. A local district or group of districts may seek approval for a training program. The state-approved local district training program is an alternative to the college teacher preparation program as a means of acquiring teacher certification for a teacher at any grade level. The training program may be offered for all teaching certificates approved by Education Professional Standards Board, including interdisciplinary early childhood education, except for specific certificates for teachers of exceptional children. To participate in a state-approved local district alternative training program, the candidate shall:

(a) Possess a bachelor's degree with a grade point average of two and five tenths (2.5) on a four (4) point scale or, upon approval by the Education Professional Standards Board, at least a grade point average of two (2) on a four (4) point scale if the candidate has exceptional life experience related to teaching and has completed the bachelor's degree at least five (5) years prior to submitting an application to the program.

(b) Pass written tests designated by the Education Professional Standards Board for content knowledge in the specific teaching field of the applicant with minimum scores in each test as set by the Education Professional Standards Board. To be eligible to take a subject field test, the applicant shall have completed a thirty (30) hour major in the academic content area or five (5) years of experience in the academic content area as approved by the Education Professional Standards Board.

(c) Have been offered employment in a school district which has a training program approved by the Education Professional Standards Board.

(d) Upon meeting the participation requirements as established in this subsection, the candidate shall be issued a one (1) year provisional certificate by the Education Professional Standards Board. The regular provisional certificate

shall be issued upon satisfactory completion of the program and the teacher testing internship program pursuant to KRS 161.030.

(e) The Education Professional Standards Board may reject the application of any candidate who is judged as not meeting academic requirements comparable to those for students enrolled in Kentucky teacher preparation programs.

(4) **Option 3:** Certification of a professional from a postsecondary institution: A candidate who possesses the following qualifications may receive alternative certification for teaching at any level:

(a) A master's degree or doctoral degree in the academic content area for which certification is sought;

(b) A minimum of five (5) years of full-time teaching experience, or its equivalent, in the academic content area for which certification is sought in a regionally or nationally accredited institution of higher education; and

(c) Successful completion of the teacher internship requirement imposed under KRS 161.030.

(5) **Option 4:** Certification of an adjunct instructor. A person who has expertise in areas such as art, music, foreign language, drama, science, and other specialty areas may be employed as an adjunct instructor in a part-time position by a local board of education under KRS 161.046. An individual certified as an adjunct instructor shall not be deemed "highly qualified" under the provisions of the federal No Child Left Behind Act of 2001, 20 U.S.C. secs. 6301 et seq.

(6) **Option 5:** Certification of a veteran of the Armed Forces. The Education Professional Standards Board shall issue a statement of eligibility, valid for five (5) years, to a veteran for teaching at the elementary, secondary, and secondary vocational education levels with the following qualifications:

(a) 1. Discharged or released from active duty under honorable conditions after six (6) or more years of continuous active duty immediately before the discharge or release; or

2. Completed a total of at least ten (10) years of active duty service, ten (10) years of service officially credited toward armed services retirement, or ten (10) years' combination of such service;

(b) At least a bachelor's degree in the content area or closely related area for which certification is sought, issued by a regionally or nationally accredited institution of higher education;

(c) A grade point average of two and five-tenths (2.5) on a four (4) point scale for a bachelor's degree or an advanced degree; and

(d) A passing score on the written exit assessment examination designated by the Education Professional Standards Board for content knowledge.

Upon an offer of employment by a school district, the eligible veteran shall receive a one (1) year provisional teaching certificate with approval by the Education Professional Standards Board of a joint application by the veteran and the employing school district. During this year, the veteran shall participate in the teacher internship program under subsections (5), (6), (7), and (8) of KRS 161.030. Page 4 of 6

Upon successful completion of the internship program, the veteran shall receive a regular professional certificate.

(7) **Option 6:** University alternative program. With approval of the Education Professional Standards Board, a university may provide an alternative program that enrolls students in a postbaccalaureate teacher preparation program concurrently with employment as a teacher in a local school district. A student in the alternative program shall be granted a temporary provisional certificate and shall be a candidate in the Kentucky teacher internship program, notwithstanding provisions of KRS 161.030. A student may not participate in the internship program until the student has successfully completed the assessments required by the board. The temporary provisional certificate shall be valid for a maximum of one (1) year, and may be renewed two (2) additional years, and shall be contingent upon the candidate's continued enrollment in the preparation program and compliance with all requirements established by the board. A professional certificate shall be issued upon the teacher candidate's successful completion of the program, the internship requirements, and all assessments required by the board.

(8) **Option 7:** Certification of a person in a field other than education to teach in elementary, middle, or secondary programs. This option shall not be limited to teaching in shortage areas.

(a) An individual certified under provisions of this subsection shall be issued a one (1) year temporary provisional teaching certificate, renewable for a maximum of two (2) additional years with approval of the Education Professional Standards Board provided that the candidate:

1. Possesses a bachelor's degree with a declared academic major in the area in which certification is sought and a cumulative grade point average of 3.0 on a 4.0 scale, or a professional or graduate degree in a field related to the area in which certification is sought;
2. Has a minimum score of five hundred (500) on the verbal section and a minimum score of four (4) on the analytical writing section of the Graduate Record Examination (GRE). In addition, teachers of mathematics and physical and biological sciences shall have a minimum score of four hundred fifty (450) on the quantitative section of the GRE. A candidate who has a professional degree shall be exempt from the requirements of this subparagraph; and
3. Passes written tests designated by the Education Professional Standards Board for content knowledge in the specific teaching field of the applicant with minimum scores in each test as set by the board.

(b) Prior to receiving the temporary provisional certificate or during the first year of the certificate, the teacher shall complete the following:

1. For elementary teaching, the individual shall successfully complete the equivalent of a two hundred forty (240) hour institute, based on six (6) hour days for eight (8) weeks. The providers and the content of the institute shall be approved by the Education Professional Standards Board. The content shall include research-based teaching strategies in Page 5 of 6

reading and math, research on child and adolescent growth, knowledge of individual differences, including teaching exceptional children, and methods of classroom management.

2. For middle and secondary teaching, the individual shall successfully complete the equivalent of a one hundred eighty (180) hour institute, based on six (6) hour days for six (6) weeks. The providers and the content of the institute shall be approved by the Education Professional Standards Board and shall include research-based teaching strategies, research on child and adolescent growth, knowledge of individual differences, including teaching exceptional children, and methods of classroom management.

(c) The candidate shall participate in the teacher internship program under subsections (5), (6), (7), and (8) of KRS 161.030. After successful completion of the internship program, the candidate shall receive a regular professional certificate.

(9) A public school teacher certified under subsections (2) to (8) of this section shall be placed on the local district salary schedule for the rank corresponding to the degree held by the teacher.

(10) Veterans who were discharged or released from active duty under honorable conditions after six (6) or more years of continuous active duty immediately before the discharge or release, and who have at least four (4) years of occupational experience in the area in which they seek certification as a vocational industrial education teacher, shall apply for certification under and meet the requirements of the administrative regulations promulgated by the Education Professional Standards Board.

(11) Subsections (1) to (3) of this section notwithstanding, a candidate who possesses the following qualifications may receive certification for teaching programs for exceptional students:

(a) An out-of-state license to teach exceptional students;

(b) A bachelor's or master's degree in the certification area or closely related area for which certification is sought; and

(c) Successful completion of the teacher internship requirement required under KRS 161.030.

(12) A teacher who is fully certified in Kentucky and who is seeking an additional certification is not required to repeat the Kentucky teacher internship program.

(13) Under KRS 161.030(5), a candidate for alternative certification may serve his or her internship in a nonpublic school.

**161.028 Education Professional Standards Board -- Powers and duties regarding the preparation and certification of professional school personnel -- Membership.**

- (1) The Education Professional Standards Board is recognized to be a public body corporate and politic and an agency and instrumentality of the Commonwealth, in the performance of essential governmental functions. The Education Professional Standards Board has the authority and responsibility to:
  - (a) Establish standards and requirements for obtaining and maintaining a teaching certificate;
  - (b) Set standards for, approve, and evaluate college, university, and school district programs for the preparation of teachers and other professional school personnel. Program standards shall reflect national standards and shall address, at a minimum, the following:
    1. The alignment of programs with the state's core content for assessment as defined in KRS 158.6457;
    2. Research-based classroom practices, including effective classroom management techniques;
    3. Emphasis on subject matter competency of teacher education students;
    4. Methodologies to meet diverse educational needs of all students;
    5. The consistency and quality of classroom and field experiences, including early practicums and student teaching experiences;
    6. The amount of college-wide or university-wide involvement and support during the preparation as well as the induction of new teachers;
    7. The diversity of faculty;
    8. The effectiveness of partnerships with local school districts; and
    9. The performance of graduates on various measures as determined by the board;
  - (c) Conduct an annual review of diversity in teacher preparation programs;
  - (d) Provide assistance to universities and colleges in addressing diversity, which may include researching successful strategies and disseminating the information, encouraging the development of nontraditional avenues of recruitment and providing incentives, waiving administrative regulations when needed, and other assistance as deemed necessary;
  - (e) Discontinue approval of programs that do not meet standards or whose graduates do not perform according to criteria set by the board;
  - (f) Issue, renew, revoke, suspend, or refuse to issue or renew; impose probationary or supervisory conditions upon; issue a written reprimand or admonishment; or any combination of actions regarding any certificate;
  - (g) Develop specific guidelines to follow upon receipt of an allegation of sexual misconduct by an employee certified by the Education Professional Standards Board. The guidelines shall include investigation, inquiry, and hearing

procedures which ensure the process does not revictimize the alleged victim or cause harm if an employee is falsely accused;

- (h) Receive, along with investigators hired by the Education Professional Standards Board, training on the dynamics of sexual misconduct of professionals, including the nature of this abuse of authority, characteristics of the offender, the impact on the victim, the possibility and the impact of false accusations, investigative procedures in sex offense cases, and effective intervention with victims and offenders;
- (i) Recommend to the Kentucky Board of Education the essential data elements relating to teacher preparation and certification, teacher supply and demand, teacher attrition, teacher diversity, and employment trends to be included in a state comprehensive data and information system and periodically report data to the Interim Joint Committee on Education;
- (j) Submit reports to the Governor and the Legislative Research Commission and inform the public on the status of teaching in Kentucky;
- (k) Devise a credentialing system that provides alternative routes to gaining certification and greater flexibility in staffing local schools while maintaining standards for teacher competence;
- (l) Develop a professional code of ethics;
- (m) Set the qualifications and salary for the positions of executive director and deputy executive director to the board, notwithstanding the provisions of KRS 64.640;
- (n) Recruit, select, employ and evaluate the executive director to the board;
- (o) Approve employment procedures for the employment of policy level staff, subject to the provisions of KRS 12.050;
- (p) Approve the biennial budget request;
- (q) Charge reasonable fees for the issuance, reissuance, and renewal of certificates that are established by administrative regulation. The proceeds shall be used to meet a portion of the costs of the issuance, reissuance, and renewal of certificates, and the costs associated with disciplinary action against a certificate holder under KRS 161.120;
- (r) Waive a requirement that may be established in an administrative regulation promulgated by the board. A request for a waiver shall be submitted to the board, in writing, by an applicant for certification, a postsecondary institution, or a superintendent of a local school district, with appropriate justification for the waiver. The board may approve the request if the person or institution seeking the waiver has demonstrated extraordinary circumstances justifying the waiver. Any waiver granted under this subsection shall be subject to revocation if the person or institution falsifies information or subsequently fails to meet the intent of the waiver;
- (s) Promote the development of one (1) or more innovative, nontraditional or alternative administrator or teacher preparation programs through public or private colleges or universities, private contractors, the Department of

Education, or the Kentucky Commonwealth Virtual University and waive administrative regulations if needed in order to implement the program;

- (t) Grant approval, if appropriate, of a university's request for an alternative program that enrolls an administrator candidate in a postbaccalaureate administrator preparation program concurrently with employment as an assistant principal, principal, assistant superintendent, or superintendent in a local school district. An administrator candidate in the alternative program shall be granted a temporary provisional certificate and shall be a candidate in the Kentucky Principal Internship Program, notwithstanding provisions of KRS 161.030, or the Superintendent's Assessment process, notwithstanding provisions of KRS 156.111, as appropriate. The temporary certificate shall be valid for a maximum of two (2) years, and shall be contingent upon the candidate's continued enrollment in the preparation program and compliance with all requirements established by the board. A professional certificate shall be issued upon the candidate's successful completion of the program, internship requirements, and assessments as required by the board;
  - (u) Employ consultants as needed;
  - (v) Enter into contracts. Disbursements to professional educators who receive less than one thousand dollars (\$1,000) in compensation per fiscal year from the board for serving on an assessment validation panel or as a test scorer or proctor shall not be subject to KRS 45A.690 to 45A.725;
  - (w) Sponsor studies, conduct research, conduct conferences, and publish information as appropriate; and
  - (x) Issue orders as necessary in any administrative action before the board.
- (2) (a) The board shall be composed of seventeen (17) members. The commissioner of education and the president of the Council on Postsecondary Education, or their designees, shall serve as ex officio voting members. The Governor shall make the following fifteen (15) appointments:
1. Nine (9) members who shall be teachers representative of elementary, middle or junior high, secondary, special education, and secondary vocational classrooms;
  2. Two (2) members who shall be school administrators, one (1) of whom shall be a school principal;
  3. One (1) member representative of local boards of education; and
  4. Three (3) members representative of postsecondary institutions, two (2) of whom shall be deans of colleges of education at public universities and one (1) of whom shall be the chief academic officer of an independent not-for-profit college or university.
- (b) The members appointed by the Governor after June 21, 2001, shall be confirmed by the Senate and the House of Representatives under KRS 11.160. If the General Assembly is not in session at the time of the appointment, persons appointed shall serve prior to confirmation, but the Governor shall seek the consent of the General Assembly at the next regular session or at an

intervening extraordinary session if the matter is included in the call of the General Assembly.

- (c) A vacancy on the board shall be filled in the same manner as the original appointment within sixty (60) days after it occurs. A member shall continue to serve until his successor is named. Any member who, through change of employment status or residence, or for other reasons, no longer meets the criteria for the position to which he was appointed shall no longer be eligible to serve in that position.
- (d) Members of the board shall serve without compensation but shall be permitted to attend board meetings and perform other board business without loss of income or other benefits.
- (e) A state agency or any political subdivision of the state, including a school district, required to hire a substitute for a member of the board who is absent from the member's place of employment while performing board business shall be reimbursed by the board for the actual amount of any costs incurred.
- (f) A chairman shall be elected by and from the membership. A member shall be eligible to serve no more than three (3) one (1) year terms in succession as chairman. The executive director shall keep records of proceedings. Regular meetings shall be held at least semiannually on call of the chairman.
- (g) To carry out the functions relating to its duties and responsibilities, the board is empowered to receive donations and grants of funds; to appoint consultants as needed; and to sponsor studies, conduct conferences, and publish information.

**Effective:** July 13, 2004

**History:** Amended 2004 Ky. Acts ch. 117, sec. 2, effective July 13, 2004. -- Amended 2002 Ky. Acts ch. 288, sec. 3, effective July 15, 2002. -- Amended 2001 Ky. Acts ch. 137, sec. 7, effective June 21, 2001. -- Amended 2000 Ky. Acts ch. 527, sec. 15, effective July 14, 2000. -- Amended 1998 Ky. Acts ch. 362, sec. 3, effective July 15, 1998. -- Amended 1997 (1st Extra. Sess.) Ky. Acts ch. 1, sec. 66, effective May 30, 1997. -- Amended 1996 Ky. Acts ch. 107, sec. 1, effective July 15, 1996; and ch. 343, sec. 4, effective July 15, 1996. -- Amended 1994 Ky. Acts ch. 265, sec. 1, effective July 15, 1994; and ch. 470, sec. 1, effective July 15, 1994. -- Created 1990 Ky. Acts ch. 476, Pt. II, sec. 56, effective July 13, 1990.



I na Et rbsmm

Sns kOhot k smmerq1 / / 8,0/

**Principal ( Includes Assistants & Vocational)**

**2,167**

	Principal(s)	Percent of population
Nosmm0 , Dwbdosmm kV nq Dwodqirbd	/	
Nosmm1 , Knb` kCin sqpsSq hmrf	/	
Nosmm2 , Bnikdf d E` bt lex	/	
Nosmm3 , @:it rbsHtr sq bsnq	/	
Nosmm4 , Udsdq mnesgd @j dc Enqodr	/	
Nosmm5 , T rhdqr lex A` rdc	020	5- / 34
Nosmm6 , T rhdqr lex Htr sst sd	/	
Sns kMf l adqneOqirbd` k` vgn gdlc` m@edqr stud Bdqrdb` sd-	020	5- / 34112701

**New Principals with Zero Experience**

	Principals	Percent of population
Nosmm5 , T rhdqr lex A` rdc	1	/ - / 35035636
	0	/ - / 35035636

P t dr smm2-

Bnkdf d	Qqnf q l	Bnl oldsdq	@sdqni stud Qnt sd Qqnf q l
@at q Bnkdf d	40		Nosmm5
Adlk d lmd Tntudq lxx	6/		Nosmm5
B`l oadlk ulkd Tntudq lxx	066		Nosmm5
D`r sdqmqJ dnt b j x Tntudq lxx	104		Nosmm5
F dncq dsnv mBnkdf d	235		Nosmm5
J dnt b j x Rs sd Tntudq lxx	4		Nosmm5
L nqjgd` c Rs sd Tntudq lxx	221		Nosmm5
L t qj x Rs sd Tntudq lxx	078		Nosmm5
MnggdqmqJ dnt b j x Tntudq lxx	161		Nosmm5
MnggdqmqJ dnt b j x Tntudq lxx	4		Nosmm6
Ro` kchrf Tntudq lxx	070		Nosmm5
Sgnl ` r L nqj Bnkdf d	11		Nosmm5
TntmmBnkdf d	007		Nosmm5
Tntudq lxx neJ dnt b j x	05		Nosmm5
Tntudq lxx neKnt lr ulkd	266		Nosmm5
Tntudq lxx nesgd Bt l adq mcr	48		Nosmm5
V dr sdqmqJ dnt b j x Tntudq lxx	22/		Nosmm5

**STANDARD 1: THE TEACHER DEMONSTRATES APPLIED CONTENT KNOWLEDGE**

The teacher demonstrates a current and sufficient academic knowledge of certified content areas to develop student knowledge and performance in those areas.

Initial-Level Performance	Advanced-Level Performance
<b>1.1 Communicates concepts, processes, and knowledge.</b>	
Accurately and effectively communicates concepts, processes and/or knowledge and uses vocabulary that is clear, correct and appropriate for students.	Accurately and effectively communicates an in-depth understanding of concepts, processes, and/or knowledge in ways that contribute to the learning of all students.
<b>1.2 Connects content to life experiences of student.</b>	
Initial-Level Performance	Advanced-Level Performance
Effectively connects most content, procedures, and activities with relevant life experiences of students.	Effectively connects content to students' life experiences including, when appropriate, prior learning in the content area or other content areas.
<b>1.3 Demonstrates instructional strategies that are appropriate for content and contribute to student learning.</b>	
Initial-Level Performance	Advanced-Level Performance
Uses instructional strategies that are clearly appropriate for the content and processes of the lesson and make a clear contribution to student learning.	Consistently uses instructional strategies that are appropriate for content and contribute to the learning of all students.
<b>1.4 Guides students to understand content from various perspectives.</b>	
Initial-Level Performance	Advanced-Level Performance
Provides opportunities and guidance for students to consider lesson content from different perspectives to extend their understanding.	Regularly guides students to understand content from appropriate diverse, multicultural, or global perspectives.
<b>1.5 Identifies and addresses students' misconceptions of content.</b>	
Initial-Level Performance	Advanced-Level Performance
Identifies misconceptions related to content and addresses them during planning and instruction.	Consistently anticipates misconceptions related to content and addresses them by using appropriate instructional practices.

## STANDARD 2: THE TEACHER DESIGNS AND PLANS INSTRUCTION

The teacher designs/plans instruction that develops student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

### 2.1 Develops significant objectives aligned with standards.

Initial-Level Performance	Advanced-Level Performance
States learning objectives that reflect key concepts of the discipline and are aligned with local or state standards.	Develops challenging and appropriate learning objectives that are aligned with local/state/national standards and are based on students' needs, interests and abilities.

### 2.2 Uses contextual data to design instruction relevant to students.

Initial-Level Performance	Advanced-Level Performance
Plans and designs instruction based on contextual (i.e., student, community, and/or cultural) and pre-assessment data.	Plans and designs instruction that is based on significant contextual and pre-assessment data.

### 2.3 Plans assessments to guide instruction and measure learning objectives.

Initial-Level Performance	Advanced-Level Performance
Prepares assessments that measure student performance on each objective and help guide teaching.	Develops well-designed assessments that align with learning objectives, guide instruction, and measure learning results.

### 2.4 Plans instructional strategies and activities that address learning objectives for all students.

Initial-Level Performance	Advanced-Level Performance
Aligns instructional strategies and activities with learning objectives for all students.	Plans a learning sequence using instructional strategies and activities that build on students' prior knowledge and address learning objectives.

### 2.5 Plans instructional strategies and activities that facilitate multiple levels of learning.

Initial-Level Performance	Advanced-Level Performance
Plans instructional strategies that include several levels of learning that require higher order thinking.	Plans a learning sequence using strategies and activities that foster the development of higher-order thinking.

### STANDARD 3: THE TEACHER CREATES AND MAINTAINS LEARNING CLIMATE

The teacher creates a learning climate that supports the development of student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

#### 3.1 Communicates high expectations.

Initial-Level Performance	Advanced-Level Performance
Sets significant and challenging objectives for students and verbally/nonverbally communicates confidence in students' ability to achieve these objectives.	Consistently Sets significant and challenging behavioral and learning expectations for all students and communicates confidence in their ability to achieve those expectations.

#### 3.2 Establishes a positive learning environment.

Initial-Level Performance	Advanced-Level Performance
Establishes clear standards of conduct, shows awareness of student behavior, and responds in ways that are both appropriate and respectful of students.	Maintains a fair, respectful, and productive classroom environment conducive to learning.

#### 3.3 Values and supports student diversity and addresses individual needs.

Initial-Level Performance	Advanced-Level Performance
Uses a variety of strategies and methods to supports student diversity by addressing individual needs.	Consistently uses appropriate and responsive instructional strategies that address the needs of all students.

#### 3.4 Fosters mutual respect between teacher and students and among students.

Initial-Level Performance	Advanced-Level Performance
Treats all students with respect and concern and monitors student interactions to encourage students to treat each other with respect and concern.	Consistently treats all students with respect and concern and actively encourages students to treat each other with respect and concern.

#### 3.5 Provides a safe environment for learning.

Initial-Level Performance	Advanced-Level Performance
Creates a classroom environment that is both emotionally and physically safe for all students.	Maintains a classroom environment that is both emotionally and physically safe for all students.

## STANDARD 4: THE TEACHER IMPLEMENTS AND MANAGES INSTRUCTION

The teacher introduces/implements/manages instruction that develops student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

### 4.1 Uses a variety of instructional strategies that align with learning objectives and actively engage students.

Initial-Level Performance	Advanced-Level Performance
Uses a variety of instructional strategies that engage students throughout the lesson on tasks aligned with learning objectives.	Consistently provides a well-planned sequence of appropriate instructional strategies that actively engage students in meeting learning objectives.

### 4.2 Implements instruction based on diverse student needs and assessment data.

Initial-Level Performance	Advanced-Level Performance
Implements instruction based on contextual information and assessment data.	Implements instruction based on contextual information and assessment data, adapting instruction to unanticipated circumstances.

### 4.3 Uses time effectively.

Initial-Level Performance	Advanced-Level Performance
Establishes efficient procedures for performing non-instructional tasks, handling materials and supplies, managing transitions, and organizing and monitoring group work so that there is minimal loss of instructional time.	Makes thoughtful choices about the organization and implementation of both instructional and non-instructional tasks to maximize time for student learning.

### 4.4 Uses space and materials effectively.

Initial-Level Performance	Advanced-Level Performance
Uses classroom space and materials effectively to facilitate student learning.	Makes optimal use of classroom space and uses a variety of instructional resources and technologies to enhance student learning.

### 4.5 Implements and manages instruction in ways that facilitate higher order thinking.

Initial-Level Performance	Advanced-Level Performance
Instruction provides opportunity to promote higher-order thinking.	Consistently uses a variety of appropriate strategies to facilitate higher-order thinking.

## STANDARD 5: THE TEACHER ASSESSES AND COMMUNICATES LEARNING RESULTS

The teacher assesses learning and communicates results to students and others with respect to student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

### 5.1 Uses pre-assessments.

Initial-Level Performance	Advanced-Level Performance
Uses a variety of pre-assessments to establish baseline knowledge and skills for all students.	Consistently uses student baseline data from appropriate pre-assessments to promote the learning of all students.

### 5.2 Uses formative assessments.

Initial-Level Performance	Advanced-Level Performance
Uses a variety of formative assessments to determine each student's progress and guide instruction.	Consistently uses appropriate formative assessments to determine student progress, guide instruction, and provide feedback to students.

### 5.3 Uses summative assessments.

Initial-Level Performance	Advanced-Level Performance
Uses a variety of summative assessments to measure student achievement.	Consistently uses appropriate summative assessments aligned with the learning objectives to measure student achievement.

### 5.4 Describes, analyzes, and evaluates student performance data.

Initial-Level Performance	Advanced-Level Performance
Describes, analyzes, and evaluates student performance data to determine progress of individuals and identify differences in progress among student groups.	Consistently describes, analyzes, and evaluates student performance data to determine student progress, identify differences among student groups, and inform instructional practice.

### 5.5 Communicates learning results to students and parents.

Initial-Level Performance	Advanced-Level Performance
Communicates learning results to students and parents that provide a clear and timely understanding of learning progress relative to objectives.	Clearly communicates to students and parents in a timely manner the evidence of student performance and recommends future actions.

### 5.6 Allows opportunity for student self-assessment.

Initial-Level Performance	Advanced-Level Performance
Promotes opportunities for students to engage in accurate self-assessment of learning.	Provides on-going opportunities for students to assess and reflect on their own performance in order to identify strengths and areas for future learning.

**STANDARD 6: THE TEACHER DEMONSTRATES THE IMPLEMENTATION OF TECHNOLOGY**

The teacher uses technology to support instruction; access and manipulate data; enhance professional growth and productivity; communicate and collaborate with colleagues, parents, and the community; and conduct research.

**6.1 Uses available technology to design and plan instruction.**

Initial-Level Performance	Advanced-Level Performance
Uses technology to design and plan instruction.	Uses appropriate technology to design and plan instruction that supports and extends learning of all students.

**6.2 Uses available technology to implement instruction that facilitates student learning.**

Initial-Level Performance	Advanced-Level Performance
Uses technology to implement instruction that facilitates student learning.	Designs and implements research-based, technology-infused instructional strategies to support learning of all students.

**6.3 Integrates student use of available technology into instruction.**

Initial-Level Performance	Advanced-Level Performance
Integrates student use of technology into instruction to enhance learning outcomes and meet diverse student needs.	Provides varied and authentic opportunities for all students to use appropriate technology to further their learning.

**6.4 Uses available technology to assess and communicate student learning.**

Initial-Level Performance	Advanced-Level Performance
Uses technology to assess and communicate student learning.	Uses technology to assess student learning, manage assessment data, and communicate results to appropriate stakeholders.

**6.5 Demonstrates ethical and legal use of technology.**

Initial-Level Performance	Advanced-Level Performance
Ensures that personal use and student use of technology are ethical and legal.	Provides and maintains a safe, secure, and equitable classroom environment that consistently promotes discerning and ethical use of technology.

## STANDARD 7: REFLECTS ON AND EVALUATES TEACHING AND LEARNING

The teacher reflects on and evaluates specific teaching/learning situations and/or programs.

### 7.1 Uses data to reflect on and evaluate student learning.

Initial-Level Performance	Advanced-Level Performance
Reflects on and accurately evaluates student learning using appropriate data.	Uses formative and summative performance data to determine the learning needs of all students.

### 7.2 Uses data to reflect on and evaluate instructional practice.

Initial-Level Performance	Advanced-Level Performance
Reflects on and accurately evaluates instructional practice using appropriate data.	Uses performance data to conduct an in-depth analysis and evaluation of instructional practices to inform future teaching.

### 7.3 Uses data to reflect on and identify areas for professional growth.

Initial-Level Performance	Advanced-Level Performance
Identifies areas for professional growth using appropriate data.	Reflects on the evaluations of student learning and instructional practices to identify and develop plans for professional growth.

## STANDARD 8: COLLABORATES WITH COLLEAGUES/PARENTS/OTHERS

The teacher collaborates with colleagues, parents, and other agencies to design, implement, and support learning programs that develop student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

<b>8.1 Identifies students whose learning could be enhanced by collaboration.</b>	
Initial-Level Performance	Advanced-Level Performance
Identifies one or more students whose learning could be enhanced by collaboration and provides an appropriate rationale.	Describes an on-going process for identifying situations in which student learning could be enhanced by collaboration.
<b>8.2 Designs a plan to enhance student learning that includes all parties in the collaborative effort.</b>	
Initial-Level Performance	Advanced-Level Performance
Designs a plan to enhance student learning that includes all parties in the collaborative effort.	Designs a plan that involves parents, colleagues, and others in a collaborative effort to enhance student learning.
<b>8.3 Implements planned activities that enhance student learning and engage all parties.</b>	
Initial-Level Performance	Advanced-Level Performance
Implements planned activities that enhance student learning and engage all parties.	Explains how the collaboration to enhance student learning has been implemented.
<b>8.4 Analyzes data to evaluate the outcomes of collaborative efforts.</b>	
Initial-Level Performance	Advanced-Level Performance
Analyzes student learning data to evaluate the outcomes of collaboration and identify next steps.	Uses appropriate student performance data to describe, analyze, and evaluate the impact of the collaborative activities on student learning and to identify next steps.

**STANDARD 9: EVALUATES TEACHING AND IMPLEMENTS PROFESSIONAL DEVELOPMENT**

The teacher evaluates his/her overall performance with respect to modeling and teaching Kentucky's learning goals, refines the skills and processes necessary, and implements a professional development plan.

**9.1 Self assesses performance relative to Kentucky's Teacher Standards.**

Initial-Level Performance	Advanced-Level Performance
Identifies priority growth areas and strengths by thoroughly and accurately assessing current performance on all the Kentucky Teacher Standards.	Thoroughly and accurately assesses current performance related to the Kentucky Teacher Standards and any school/district professional development initiatives.

**9.2 Identifies priorities for professional development based on data from self-assessment, student performance and feedback from colleagues.**

Initial-Level Performance	Advanced-Level Performance
Identifies priorities for professional development based on data from self-assessment, student performance and feedback from colleagues.	Reflects on data from multiple sources (i.e., self-assessment, student performance, feedback from colleagues, school/district initiatives) and identifies priority areas for growth.

**9.3 Designs a professional growth plan that addresses identified priorities.**

Initial-Level Performance	Advanced-Level Performance
Designs a clear, logical professional growth plan that addresses all priority areas.	Designs a clear, logical professional growth plan that addresses all priority areas.

**9.4 Shows evidence of professional growth and reflection on the identified priority areas and impact on instructional effectiveness and student learning.**

Initial-Level Performance	Advanced-Level Performance
Shows clear evidence of professional growth and reflection relative to the identified priority areas and impact on instructional effectiveness and student learning.	Shows clear evidence of the impact of professional growth activities on instructional effectiveness and student learning.

**STANDARD 10: PROVIDES LEADERSHIP WITHIN SCHOOL/COMMUNITY/PROFESSION**

The teacher provides professional leadership within the school, community, and education profession to improve student learning and well-being.

**10.1 Identifies leadership opportunities that enhance student learning and/or professional environment of the school.**

Initial-Level Performance	Advanced-Level Performance
Identifies leadership opportunities in the school, community, or professional organizations and selects one with the potential for positive impact on learning or the professional environment and is realistic in terms of knowledge, skill, and time required.	Identifies leadership opportunities within the school, community, or professional organizations to advance learning, improve instructional practice, facilitate professional development of colleagues, or advocate positive policy change; and selects an opportunity to demonstrate initiative, planning, organization, and professional judgment.

**10.2 Develops a plan for engaging in leadership activities.**

Initial-Level Performance	Advanced-Level Performance
Develops a leadership work plan that describes the purpose, scope, and participants involved and how the impact on student learning and/or the professional environment will be assessed.	Develops a leadership work plan that clearly describes the purpose, scope, participants involved, timeline of events/actions, and plan for assessing progress and impact.

**10.3 Implements a plan for engaging in leadership activities.**

Initial-Level Performance	Advanced-Level Performance
Implements the approved leadership work plan that has a clear timeline of events/actions and a clear description of how impact will be assessed.	Effectively implements the leadership work plan.

**10.4 Analyzes data to evaluate the results of planned and executed leadership efforts.**

Initial-Level Performance	Advanced-Level Performance
Analyzes student learning and/or other data appropriately to evaluate the results of planned and executed leadership efforts.	Uses data from the leadership effort to describe, analyze, and evaluate the impact on student learning.



# Kentucky's State Plan

**to ensure that all students are taught by highly qualified, competent, caring individuals and that poor and minority children are not taught at higher rates than other children by inexperienced, unqualified and out-of-field teachers**

**June 2006**



## **Kentucky's Mission**

### ***For Teacher Quality***

The Kentucky Department of Education (KDE) will assist districts and schools with securing the talents and skills of the highest quality professionals for every classroom, school, and district in Kentucky. The Division Educator quality and Diversity seeks to recruit, select, and retain exceptional, multi-dimensional individuals who have chosen education as their career.

Traditional educational programs, scholarships, alternative certification routes, professional development, and early identification initiatives are tools used to accomplish this undertaking. The implementation of such systemic policies and programs will provide the Commonwealth with diverse, competent, caring educators, who are essential to ensure that children reach their maximum potential.

NCLB legislation emphasizes the importance of teacher quality as well and requires that *all* teachers be highly qualified by the 2005 -2006-school year. Kentucky's plan to achieve the goal of 100% of classes taught by highly qualified teachers focuses on immediate needs, as well as on providing stability for future needs. The plan is designed to increase student achievement by elevating teacher and principal quality through preparation, recruitment, hiring, and retention strategies, coupled with scientifically based high quality professional development interventions. Kentucky's plan is a partnership between The Kentucky Department of Education (KDE), Education Professional Standards Board (EPSB), The Council on Postsecondary Education (CPE), and other partners for excellence in education for all Kentucky's students.

### ***Equitable Teacher Distribution: Kentucky's Good Faith Effort***

NCLB is the first federal education law to require states to define a "highly qualified" teacher and take steps to address any maldistribution of teachers. Kentucky has a long history of focusing great attention on the needs of our low-income and minority students. The Kentucky Education Reform Act enacted in 1990 examined policies and practices to ensure that all students have access to a quality education. In addition, Kentucky has emphasized closing the achievement gap among disaggregated groups of students, with much focus on increasing the quality and diversity of the educator workforce.

## **Kentucky's Research Findings, & Enhanced Data Collection**

### **Major findings from data analysis of Kentucky's Educator Workforce, Kentucky Educator Placement Service, Minority Educator Recruitment and Retention Report (MERR), Local Educator Assignment Data (LEAD) Highly Qualified Educator Data**

#### **Quantitative Analysis of Aforementioned Data:**

- No significant differences were found at the district level with regard to the highly qualified status of Kentucky's teachers between high and low poverty schools and the percentage of minority students
- Contrary to conventional wisdom, the percentage of highly qualified teachers does not appear to be correlated with poverty or ethnicity, but instead geographic location of schools or districts has greater bearing on HQ status. In some cases, with regard to poverty and ethnicity the relationship is the OPPOSITE of what might be expected
- Current data is insufficient to determine disparities with regard to teacher experience and assignment to low-income schools, and/ or schools with significant percentages of minority students
- Primary areas of concern with regard to highly qualified status on a statewide level are math, science and all areas of special education
- All areas of certification except elementary certification are of high need for Kentucky's more remote regions and/or regions that must compete with states paying higher salaries (primarily Northern Kentucky)

### **Kentucky's Enhanced Data Collection to Address Research Findings**

#### **1. Continuously monitor, through data collection and analyses, that Kentucky's poor and minority students are not being taught at higher rates than other children by inexperienced, unqualified and out-of-field teachers**

- Continue to monitor the number and percentage of Kentucky's emergency and probationary certificates and generate a watch list of districts/schools not making progress toward eliminating the need for these certificates, with comparative analysis based upon geographic location
- Continue to monitor the number and percentage of Kentucky's teachers teaching out-of-field and generate a watch list of districts/schools not making progress toward eliminating need for these certificates, with comparative analysis based upon geographic location
- Collect, report and monitor schools by the average number of years of teaching experience in all schools including comparative analysis to district and state data, with special focus on high-need schools (high need: Low-income schools, schools with significant percentages of minority students, and/or schools not making AYP)

- *Publicly Report Progress*: Kentucky's Annual State Report Card, District and school Report Card, Education Professional Standards Board Web-based Database, and Kentucky State-Level aligned Data Systems

## **2. Increase the percentage of Kentucky's highly qualified teachers to 100%**

- Continue to monitor Kentucky's districts/schools for the percentage of highly qualified teachers
- Review District/School plans, when they fail to make AYP toward 100% of highly qualified teachers
- *Publicly Report Progress*: Kentucky's Annual State Report Card, District and School report cards, Education Professional Standards Board Web-based Database, and Kentucky State-Level aligned Data Systems

# **Kentucky's Critical Elements and Strategies**

## **Critical Element I: Data and Reporting Systems**

- 1.1 Collect and publicly report data on the distribution of teacher talent including data on teacher turnover and projected teacher shortages
- 1.2 Enhance the Kentucky Educator Placement Service a data system that matches district/school teaching vacancies with prospective educators
- 1.3 Enhance existing data systems and reporting methods to allows parents and other stakeholders to review educators' credentials, years of experience, and highly qualified status compared to district and state data
- 1.4 Enhance existing data systems to publicly report data on teacher certificates/licenses held and ensure that all teachers are properly credentialed in the subjects they are assigned to teach
- 1.5 Develop a data system that links teacher qualifications and experience to student achievement (value added data)
- 1.6 Collect and publicly report data related to working conditions associated with high teacher turnover
- 1.7 The Education Professional Standards Board (EPSB) has automated components of the certification process resulting in quicker submissions of certificates and educator licenses
- 1.8 Kentucky is committed to comply with NCLB and is making every effort to meet the intent of the law. Though additional guidance is expected from the USDOE, communications from the EPSB have been sent to all districts to complete the HOUSSE process on any not new teacher currently in the system alerting districts to this possible elimination. Communication included that more guidance from the EPSB would be forthcoming once we had received additional information from the USDOE

## **Critical Element II: Teacher Preparation**

2. 1 Enhance existing college scholarship, loans, and loan forgiveness programs to channel prospective teachers toward schools that have difficulty attracting sufficient numbers of qualified teachers
2. 2 Expand Kentucky's Transition to Teaching grant to more high need districts/schools
2. 3(a) Continue toward Kentucky's goal of establishing Future Educators of America chapters in every high school by 2007-2008, and every middle school by 2011-2012
2. 3(b) Expand Kentucky's Dual Credit program, which allows high school students to earn up to 6 hours of credit toward a degree in an approved teacher education program
2. 4 Expand high-quality alternative routes that increase the pool of candidates for high-need schools
2. 5 Expand the number of teacher preparation programs designed to meet the staffing shortages of high-need schools

## **Critical Element III: Out-of-Field Teaching**

3. 1 The Education Professional Standards Board has accepted a recommendation to limit the number of years one may have a probationary certificate to three years, aligning its requirements with criteria for alternative certification programs and NCLB requirements. For those who demonstrate content mastery, the requirements for probationary certificates will be an avenue for a teacher to become highly qualified. The decision is still awaiting legislative approval. The board is also investigating limiting the issuance of an emergency certificate for a teacher to one year. EPSB will continue to monitor the number of emergency certificates issued to ensure that the alternative certification routes are being utilized.
3. 2 Enhance existing college scholarship, loans, and loan forgiveness programs to channel prospective teachers toward schools that have difficulty attracting sufficient numbers of qualified teachers
3. 3 Enhance the Minority Educator Recruitment and Retention scholarship program to increase the number of candidates in critical shortage areas
3. 4 Expand high quality alternative routes that increase the pool of candidates in critical shortage areas for high-need or hard to staff schools
3. 5 Expand the Kentucky traineeship program to include math and science in addition to special education certification
3. 6 Enhance the Kentucky Educator Placement Service, a data system that matches district/school teaching vacancies with prospective educators, to increase the pool of highly qualified teachers for Kentucky's schools
3. 7 Expand programs, which recruit English speaking international teachers of hard-to-fill subjects and specializations
3. 8 Provide direct technical assistance to high-need school districts to increase their use of the web-based resources for recruitment and retention of high quality teachers
3. 9 Research available resources and additional funding opportunities (Teacher Incentive Fund) to utilize research findings from Kentucky's Differentiated Compensation Pilot program, a State level Title II Part A initiative

- 3. 10 Expand the use of The Kentucky Virtual High School (KVHS), a distance learning model to increase students' access to highly qualified teachers
- 3. 11 Expand teacher mentor programs and mentor training; and enhance the Kentucky Teacher Internship Program (KTIP)
- 3. 12 Provide targeted professional development to ensure teachers are highly qualified, especially in subject shortage areas
- 3. 13 Kentucky Statutes & Regulations establish the Facilities Support Program; the School Planning Manual, which provides equalization of state resources; and the Facility Programming and Construction Criteria to ensure that all school laboratories (regardless of wealth or poverty of the district) are constructed or renovated with the same standards

## **Critical Element IV: Recruitment & Retention of Experienced Teachers**

- 4. 1 Continue utilizing the Highly Skilled Educator program to serve districts/schools not progressing toward proficiency and/or not making AYP
- 4. 2(a) Disseminate information of successful strategies implemented by districts using Title II, Part A funds to compensate highly effective teachers, instrumental in student achievement initiatives
- 4. 2(b) Explore using state level activities funds to serve high need districts by building teacher Leadership and Evaluation capacity
- 4. 3 Research available resources and additional funding opportunities (Teacher Incentive Fund) to utilize research findings from Kentucky's differentiated Compensation Pilot program, a State level Title II, Part A initiative
- 4. 4 Increase targeted support to National Board Certification candidates who teach in high-need schools National Board Teacher Cert.
- 4. 5 Expand teacher mentor program and mentor training and enhance the Kentucky Teacher Internship Program (KTIP)
- 4. 7 Enhance Kentucky's programs that honor and celebrate highly effective teachers (Kentucky Teacher of the Year, Milken Educator Award, Kentucky Educator Talent Pool, and Kentucky Teacher Forum programs)

## **Critical Element V: Professional Development**

- 5. 1 Target additional funding to expand teacher mentor program and mentor training and enhance the Kentucky Teacher Internship Program (KTIP)
- 5. 2 Continue utilizing the Highly Skilled Educator program to serve districts/ schools not progressing toward proficiency and/or not making AYP
- 5. 3 Continue to develop and implement high quality professional development initiatives that not only increase knowledge of core content and rigor, but also emphasize best practice for delivering content to a diverse student population
- 5. 4 Continue to enhance the Instructional Support Network (ISN), district cooperatives working to build capacity to provide professional development opportunities directly to their teachers. The network serves to keep district personnel informed of the key issues that will help them raise achievement and close achievement gaps.

5. 5 Expand the use of technology to support teachers' professional growth

## **Critical Element VI: Specialized Knowledge & Skills**

6. 1 Continue to develop and disseminate professional development resources to teachers and continue to build capacity of training available through web-based programming
6. 2 Continue to include cultural competency and knowledge and skills related to the ability to work with diverse learners in professional development initiatives
6. 3 Continue to support Kentucky's programs to encourage outstanding minority students to become teachers and to advance on the career ladder (Minority Educator Recruitment and Retention Scholarship, Administrative Leadership Institute, Counselors for the New Millennium, and Minority Superintendent Internship Program)
6. 4 Ensure through existing accreditation that teacher preparation programs adhere to Kentucky's new teacher standards
6. 5 Ensure districts/schools implement Kentucky's professional development standards and emphasize Kentucky's experienced teacher standards
6. 6 Enhance the Kentucky Teacher Internship Program (KTIP) and the KTIP Pilot Program (two-year model)

## **Critical Element VII: Working Conditions**

7. 1 Complete testing and implement a statewide release of a teacher retention survey to identify conditions that contribute to teacher attrition.
7. 2 Strengthen school leadership by expanding Kentucky's programs focused on improving instructional leadership capacity (SAELP, e-walk, and Gates)
7. 3 Continue to focus Kentucky's School Finance equitably to districts/schools
7. 4 Kentucky recently enacted a budget including action on teacher salaries. The new budget requires a 2% increase in FY 07 and \$3000 in FY 08 for certified employees. Requires a 2% in FY 07 and 5% in FY 08 for classified employees. All salary increases are in addition to increases provided for changes in rank or additional experience Certified & Classified Staff Data
7. 5 Continue to develop partnerships to increase the professional development opportunities available for Kentucky's school leaders, and increase the pool of candidates

## **Critical Element VIII: Policy Coherence**

8. 1 The Education Professional Standards Board has automated components of the certification process resulting in quicker submissions of certificates and educator licenses
8. 2 Review state testing policies & systems of rewards and sanctions to ensure, that they do not inadvertently drive teachers & principals away from schools that serve the lowest-achieving students

# **Kentucky's Plan for Teacher Quality, Diversity, & Equity**

## *Meeting the Highly Qualified Teacher Challenge*

**Data Collection (Critical Element D):** Kentucky has allocated resources and initiated a statewide alignment of all education related data systems in an effort to expand and improve existing data collection and reporting instruments. This will enable the Kentucky Department of Education and other partners to provide targeted assistance to districts experiencing difficulty employing highly qualified, highly effective educators, and to better assist low-performing high-need schools. The following enhancements pertain to teacher quality, measuring progress, equity, and public reporting:

**Kentucky Educator Placement Service (KEPS) (Critical Element 1.2, 3.6)** was developed by KDE to support the efforts of our school districts to recruit teachers, principals and administrators. The following are enhancements to KEPS:

Establish clear guidelines for district use of KEPS;

Develop an on-line training module for KEPS;

Provide districts the opportunity to promote the communities to potential high quality teachers;

Expand options for posting positions (descriptions);

Identify funding source for each position posted;

Identify educator employed for each position posted; and

Facilitate the alignment of KEPS, with EPSB databases.

**Educator Quality and Diversity Report (Critical Element 1.6)** is an annual report required of each district pursuant to administrative regulations of the Kentucky Board of Education. The report details the district's recruitment process and the activities used to increase the percentage of minority administrators, principals and teachers in the district. Pursuant to KRS 161.165, when a vacancy occurs in a local district, the superintendent shall conduct a search to locate minority administrators, principals and teachers to be considered for the position. The report is being revised to expand questions asked each time a position is filled to include, but not be limited to, the following criteria:

Highly Qualified (and/or Core Content Degree);

Multi-Lingual;

Dual Certification; and

Exceptional Work Experience, including years of teaching experience

**Local Educator Assignment Data (LEAD) (Critical Element 1.4)** is the primary means of collecting and reporting the highly qualified status of Kentucky's teachers. LEAD provides HQT data at the state, district, and school level, through assigned access rights. LEAD will be expanded to include years of teaching experience, preparing institutions of higher education, and alignment of EPSB, KDE and other partner databases. Administrative rights will be necessary to access these reports.

**Highly Qualified Teacher Report (HQT) (Critical Element 1.3)** is supplemental to the LEAD report and will be used for public reporting purposes. The report will include the highly qualified status of teachers, and years of teaching experience. Data for highly qualified teacher

reporting will be enhanced to include the percentage of classes taught by highly qualified teachers, with necessary disaggregated categories for teachers not highly qualified, at the district and school level. Currently, statewide summary and status data, as well as district submission data, is available via the web through the EPSB web site.

**Public Reporting: (Critical Element 1.5)** The KDE offices of Communication and Assessment in collaboration with Educator Quality and Diversity and EPSB will assume responsibility for the Annual State Report Card. In addition, the KDE web master will accept responsibility of ensuring the report is accessible to the public in multiple formats via the KDE home page. The KDE office of Assessment is currently amending school report cards to include data representing the percentage of highly qualified teachers and average years of teaching experience for the school compared to district and state data by grade level. Changes to the school report card will allow quick and easy monitoring of equitable distribution of highly qualified and experienced teachers. These amendments will be reflected in the next school report card cycle.

**Preparation: (Critical Element 8.2)** EPSB is charged with accrediting teacher certification programs through a partnership with NCATE. In addition to the work of EPSB, KDE has been actively involved with the statewide teacher personnel taskforce, under the guidance of the National Center for Special Education Personnel and Related Service Providers (Personnel Center) in an on-going effort to improve teacher preparation, recruitment and retention initiatives. The taskforce's preparation committee has focused its attention on the development of programs for paraprofessional/para-educators to participate in transition to teaching programs that research the redesign of criteria for accredited special education and general education programs.

**Recruitment:** Recruitment is included in the mission of KDE is securing the talents and skills of the highest quality professionals for every classroom, school, and district in Kentucky. The Division of Educator Quality and Diversity seeks to recruit, select, and retain exceptional, multi-dimensional individuals who have chosen education as their career. Traditional educational programs, scholarships, alternative certification routes, professional development, and early identification initiatives are tools used to accomplish this undertaking. The implementation of such systemic policies and programs will provide the Commonwealth with diverse, competent, caring educators who are essential to ensure that children reach their maximum potential.

**(Critical Element 2.3a,b)** Kentucky has initiated an early identification program entitled Future Educators of America (FEA). This initiative, officially noted by the state legislature in House Joint Resolution 188, has become a major focus of the Division of Educator Quality and Diversity, which established the goal of an FEA chapter in every high school by 2007-2008, and every middle school by 2011-2012. Future Educators of America (FEA) "Fulfill the Dream-Teach!" KDE, in collaboration with state universities, has initiated a dual credit program that allows high school students to earn up to 6 hours of credit toward a degree in an approved teacher education program.

**(Critical Element 2.1, 3.2, 3.3, 3.5)** Kentucky has initiated a number of scholarship programs and loan forgiveness programs to alleviate possible barriers to future educators (Minority Educator Recruitment and Retention Scholarship, Best in Class, and Kentucky Teacher

Scholarships). Scholarships and Loans Kentucky supports a Traineeship Program for Special Educators to address the need for special education teachers by allocating federal funds to assist certified regular education teachers in obtaining certification in an area of special education. The program is also designed to assist special education teachers in obtaining special education certification in an area not previously completed.

**(Critical Element 2.2, 2.4, 3.4)** In an effort to increase the number of highly qualified educators in Kentucky's schools and to attract nontraditional candidates to teacher education programs, Kentucky has increased its focus on alternative routes to certification for persons who have demonstrated exceptional work and/or educational experiences. Furthermore, a Transition to Teaching grant awarded by the United States Department of Education provides resources for KDE to partner with three universities and eight high-poverty, high-needs school districts to provide them with teachers meeting the highly qualified educator requirements.

**(Critical Element 2.5, 3.8)** In addition, a statewide teacher personnel taskforce was established with a primary focus of increasing the number of highly qualified special education teachers in the state. The taskforce is implementing a plan that includes a comprehensive personnel needs assessment, the identification of barriers to personnel development and the creation of strategies to overcome those barriers, and strategic planning to garner resources and carefully assess the state and local program resources to support those strategies. The plan also includes direct service to districts for recruitment and retention. The Watkins Group, a contract provider that uses a grass roots approach, provides training at the district level to members of school districts, institutions of higher education and community residents. Recruitment efforts are currently underway in several districts serving high poverty schools. Through its efforts, The Watkins Group trains participants to assist the community to recruit and increase the retention of educators. Additionally, a statewide public relations campaign targeting diverse communities is being initiated. This plan includes the distribution of the recruitment video "One Child at a Time", and brochures to community colleges, workforce centers, special education directors, high school counselors, university special education faculty, and other identified partners. Public Service Announcements are being aired on several television and radio stations throughout the state. The following are pending efforts:

- Expand FEA;
- Establish quality standards for FEA advisors and chapters;
- Establish service-learning grants for FEA chapters;
- Expand the Dual Credit program to additional institutions of higher education;
- Establish FEA scholarships for critical shortage areas;
- Expand the Transition to Teaching grant to additional high need districts;
- Expand recruitment and retention services to additional districts; and
- Expand the statewide public relations campaign.

**Retention:** Kentucky has implemented a number of strategies to address the retention of highly qualified teachers. A pilot program was initiated to research the development of differentiated compensation programs and to provide highly qualified teachers with additional compensation above the single salary schedule. Grants were provided to ten districts to implement plans including one or more of the following purposes:

Recruiting and retaining teachers in critical shortage areas;  
Reducing the numbers of emergency certified teachers;  
Providing incentives for teachers to serve in difficult assignments and hard-to-fill positions;  
Providing voluntary career advancement opportunities; or  
Rewarding teachers who increase their knowledge, skills and instructional leadership

**(Critical Element 4.7)** KDE awards and recognition programs recognize excellence in Kentucky teaching through monetary awards, national and statewide recognition, and the opportunity to consistently collaborate with exceptional educators in all areas and levels of the profession.

Kentucky's Awards and Recognition Programs include:

Kentucky Teacher of the Year Program  
Milken Educator Award Program  
Kentucky Educator Talent Pool  
Kentucky Teacher Forum

**(Critical Element 6.3)** Kentucky uses its Title II, Part A funds to support a number of programs to encourage outstanding minority students to become teachers and to advance on the career ladder. These programs include the Minority Educator Recruitment and Retention Scholarship, Administrative Leadership Institute, Counselors for the New Millennium, and Minority Superintendent Internship Program.

**(Critical Element 3.11, 7.1)** In addition, the personnel taskforce, retention committee's work focuses on data collection, drafting and submitting policy/guideline recommendations, and the creation/delivery of professional development. Specifically, the committee is gathering data on mentoring, workforce diversity and retention issues from all special education certified staff in the Commonwealth. The committee will draft guidelines/recommendations for a differentiated mentoring induction program for special education teachers.

**Professional Development (Critical Element 3.12, 5.3, 5.5, 6.1, 6.2, 6.5, 7.5):** Professional Development is considered high quality when it meets the definition of professional development in 704 KAR 3:035 – Section 1(2) and Section 4(2) and all of the Kentucky Department of Education Professional Development Standards, which are consistent with the federal criteria in Section 9101 of No Child Left Behind (NCLB). Schools and districts will determine if the professional development for teachers, administrators and other school staff meets the following definition for high quality professional development:

704 KAR 3:035 – Section 1(1) "High-quality professional development" means those experiences that systematically, over a sustained period of time, enable educators to facilitate the learning of students by acquiring and applying knowledge, understanding, skills, and abilities that address the instructional improvement goals of the school district, the individual school, or the individual professional growth needs of the educator. Section 4(2) High-quality professional development experiences shall be related to teachers' instructional assignments and administrators' professional responsibilities. Experiences shall support the local school's

instructional improvement goals and be aligned with the school or district improvement plan or individual professional growth plans of teachers.”

Professional development as part of Kentucky’s plan for meeting the Highly Qualified requirements of NCLB is based on the premise that a teacher may be highly effective but not meet the requirements for highly qualified status. In turn, highly qualified status does not necessarily translate to highly effective teaching. Kentucky’s goal is to have all classes taught by highly effective teachers. Professional development should encompass not only increased knowledge of core content and rigor but emphasize best practice for delivering content to a diverse student population.

KDE has implemented and/or partnered with several high quality professional development initiatives. The following is a list of initiatives by office designation:

### **Office of Leadership and School Improvement**

**(Critical Element 5.4)** The Instructional Support Network (ISN) was developed in 2004 as a means of bringing together the “Chief Instructional Officer” in each of Kentucky’s 176 school districts. Through weekly e-mail communication and several face-to-face professional experiences, this group is working to build their capacity to provide professional development opportunities directly to their teachers. The network serves to keep district personnel informed of the key issues that will help them raise achievement and close achievement gaps.

A by-product of the ISN has been the development of regional ISN networks through eight regional educational cooperatives. These eight cooperatives are independent, fee-based organizations that are the primary external deliverers of professional development to the school districts. 171 of 176 school districts are members of a cooperative.

**(Critical Element 7.2)** The KDE received a grant from the Wallace Foundation entitled State Action for Educational Leadership Projects. A central focus of the grant is the development of instructional leadership teams in Kentucky schools. One of the primary initiatives of instructional leadership teams is providing teacher led, job-embedded professional development experiences for teachers. The SAELP grant includes partnerships among other state agencies, universities, and local school districts.

**(Critical Element 6.4)** The EPSB has in policy the Continuing Education Option (CEO), which is an extensive one to four-year process of completing a job-embedded professional development initiative designed by the teacher and an assigned coach. The process is content specific and must meet all teacher Standards established by the EPSB. Successful completion of this portfolio process will result in an increased salary for the teacher through the EPSB Rank system.

KDE has implemented a Gates Foundation leadership grant that provides hand-held pocket computers for over 1500 school administrators across the state. These “Pocket PC’s” are used for classroom “walk throughs” by school administrators. The information gathered is shared in the individual professional growth plans of their staff. Leadership and Evaluation

**(Critical Element 4.1, 5.2)** Finally, KDE has an extensive network of field-based staff that works primarily with low performing and high achievement gap schools to improve performance and to close achievement gaps. Over 50 people are assigned to various schools and school districts to assist with school improvement. Two of the primary charges given to these groups of highly qualified educators are to model effective instructional practice and to deliver high quality professional development.

Highly Skilled Educators Achievement Gap Coordinators

## **Office of Special Instructional Services**

**Collaboration** - KDE, in partnership with the special education cooperatives, provides service to districts and schools through a statewide support system for the Collaborative Teaching Model, in an effort to increase (when appropriate) the number of children placed in the general education classroom. The Support Model includes a collaboration tool-kit, collaboration cadre, web support (collaboration site), five collaboration-training modules, and a standards-based identification of model schools and/or teams of teachers.

**Instructional Technology** - KDE, in partnership with the special education cooperatives, supports and implements the University of Kentucky's design of the Commonwealth Center for Instructional Technology and Learning (CCITL). CCITL is a web-based tool designed to assist Kentucky instructional providers in locating and implementing evidence-based strategies to enhance the educational experiences of students with learning challenges. CCITL provides an efficient web-based delivery system for a wide range of evidenced-based K – 12 instructional intervention, curricular and instructional strategies, and web-based advisors. The CCITL system consists of four primary components:

An **Advisor** component contains a secure discussion area in which instructional providers can consult with an experienced consultant about their unique circumstances;

A **Strategy Center** component provides information about evidence-based strategies related to curricular areas as well as non-curricular areas such as classroom management and study skills;

A **Library** component provides information about publications related to the strategies contained in the Strategy Center;

A **Learning Lab** component contains information about how to integrate instructional technology into the classroom. <http://ccitl.uky.edu/>

**Instructional Discipline** - The Kentucky Center for Instructional Discipline is supported through the KY SIGNAL State Improvement Grant to provide training and support to schools in the Commonwealth in order to learn the process of School-wide Positive Behavior Support. Leadership teams from each school use an improvement cycle, databased decision making to determine the pace of their schools' effort, and the next level of training needed to achieve their individual action plans. The goals are to create a culture and climate in each school that supports student success. <http://www.kycid.org/>

The Behavior Institute is a joint effort of KDE, Kentucky Council for Children with Behavior Disorders (KY-CCBD), and the Center for School Safety. The institute's focus is to promote research-based, positive, proactive practices and instructional strategies that will ultimately assist in removing behavior as a barrier to learning and in increasing overall student achievement. The

Behavior Homepage was created in 1996 to address the needs of Kentucky teachers, parents, and professionals in the field through the collaboration of KDE and the University of Kentucky. It provides access to information regarding effective practices, as well as links to on-going consultation and technical assistance concerning the full-range of behavior problems and challenges displayed by children and youth in community settings.

The Behavior Cadre, through the Special Education Cooperatives, meets quarterly to design professional development to meet the needs of local districts within their regions. The cadre consists of a behavior specialist from each regional special education cooperative. Data analysis is routinely conducted for professional development effectiveness and implementation to assist in meeting the needs of their local districts.

### **Office of Teaching and Learning**

**Arts and Humanities** - KDE partners with the Kentucky Center for the Arts to provide six teacher academies where teachers work with teaching artists and are immersed in arts activities and instructional strategies. KET also partners with KDE to provide Arts and Humanities Toolkits for teachers attending the academies and training on the use of the toolkits. Follow-up for the academies incorporates teaching artists in working classrooms with teachers in mini-residencies. The Middle Grades Demonstration Project is a partnership with the Collaborative for Teaching and Learning, which provides on-going professional development and coaching to teachers in targeted middle schools. These experiences focus on content literacy and emphasize infusing the arts into the curriculum.

**English as a Second Language (ESL) - Kentucky Limited English Proficiency (LEP)** Academies are offered in collaboration with regional and national partners. These academies provide training throughout the school year in the Sheltered Instruction Observation Protocol (SIOP). SIOP enables teachers to use research-based specific strategies to teach content in ways comprehensible to LEP students while promoting their English language development. Graduate credit is available from Eastern Kentucky University for participants pursuing an ESL Endorsement. In addition, KDE, along with the regional collaborative partners and the Southeastern Equity Center, offers regional workshops and follow-up to district leaders with emergent LEP populations.

**Foreign/World Language (Critical Element 3.7)** - KDE provides ongoing professional development for Kentucky teachers on the implementation of LinguaFolio (reflective learning and self-assessment tool), and the piloting of the STAMP online, adaptive language proficiency assessment. Through a competitive grant awarded by US DOE - Office of English Language Acquisition -- KDE partners with Jefferson County Public Schools for the Foreign Language Assistance Program (FLAP). This grant provides initial training and follow-up for the creation of Standards-Based Units of Study and use of the LinguaFolio, as well as the development of international school partnerships. The program addresses improvement in world language/teachers' language and cultural competency by providing immersion experiences in the target cultures (France and Mexico) and improvement in instruction by focusing on pedagogy. Frameworks History  
LinguaFolio Kentucky!

**(Critical Element 3.11)** Through competitive grants awarded by the CPE, KDE partners with Western Kentucky University (“Improving Student World Language Performance: Using Assessment as the Guiding Force in Standards-Based Instruction”); Murray State University (“Spanish Immersion and Mentoring”); Northern Kentucky University (“Opening Doors to New Worlds: Certifying World Language Teachers in Kentucky”), and University of Kentucky (“Developing and Assessing Communicative Competence in the World Language Classroom”). Beginning in 2006, these initiatives will address improvement in world language teachers’ instruction by focusing on instruction and assessment. Teachers will receive training in the summer, practice on students in language camps, and have follow-up during the school year.

KDE provides initial and ongoing professional development to visiting teachers from Spain through work with the Embassy of Spain’s Ministry of Education. Finally, KDE provides professional development for school administrators and teachers in coordination with the Chinese Ministry of Education and the Office of Teaching Chinese as a Foreign Language by promoting the teaching of the Chinese language and culture, the establishment of Chinese programs and the hiring of volunteer teachers from China.

#### Other World Languages

**Language Arts** – Kentucky’s Read to Achieve Act focuses on reading diagnostics and intensive reading interventions for struggling readers within the state primary program. KDE created a regularly updated technical assistance document in the form of “frequently asked questions,” and provides on-going professional development experiences, as well as monthly communications informing district and school personnel of expectations for grant implementation.

Kentucky Reading First, a statewide professional development initiative, outlines a six-year design to reach all primary-12th grade educators and administrators throughout the state. The plan supports a statewide understanding and implementation of the scientifically based reading research. Professional development opportunities are delivered in a variety of ways (i.e., multiple-day institutes, online services, listservs, electronic updates, regional monthly meetings, book study groups, modeling and demonstration).

The Kentucky Reading Projects (Dec 14, 2005) are a collaborative effort between KDE, literacy faculty from Kentucky’s eight state universities and the National Center for Family Literacy (NCFL). The project is a professional development initiative designed to provide yearlong graduate level reading courses for elementary teachers. Participants develop Literacy Action Plans that are implemented in their classrooms throughout the year.

KDE writing staff and the writing advisory committee designed and implemented Writing Cluster Leader Portfolio Scoring Training to all school-level writing cluster leaders. The University Writing Project, based on The National Writing Project model, is a collaborative effort between KDE and Kentucky’s eight state universities. Projects offer four-week summer institutes, follow-up sessions, and visits by writing project directors to analyze implementation and provide support to participant classrooms. KDE writing staff members work with the University Writing Project State Network to design training sessions focused on incorporating appropriate literacy strategies to meet the needs of all learners.

**Mathematics (Critical Element 3.11)** – KDE will partner with the Center for Mathematics Achievement and the Collaborative Center for Literacy Development to create professional development for reading and mathematics coaches and mentors. The \$4,000,000 annual program established by the 2005 General Assembly includes funds for the professional development and personnel costs for coaches and mentors that are offered through a competitive grant program to all school districts.

Kentucky's Mathematics and Science Partnerships (MSP) program develops and sustains a cadre of highly qualified *Teacher Mentors* from K-8 science and mathematics content areas. *Teacher Mentors* work with university and KDE staff to enhance their content knowledge through professional development, ongoing mentoring, and collaborative research projects. *Teacher Mentors* then mentor inexperienced teachers in their schools. KDE facilitates pedagogical, leadership and mentoring skills, and establishes a communication network for all partners. In addition, the MSP program develops and implements an alternative route to certification program leading to full certification and highly qualified status for mathematics and/or science teachers.

High School Mathematics Alliances are *professional learning communities* that involve all partners in the ongoing study of important conceptual and pedagogical issues facing high school mathematics teachers in the areas of algebra, geometry and integrated mathematics. Content and pedagogy are at the forefront, with alliances focusing on developing, implementing and revising *units of study* centered around important concepts of algebra and geometry, or integrated approaches to those areas, and *end of course assessments* for such high school courses as Algebra I, Geometry, Algebra II and Integrated Mathematics.

KDE will partner with the Center for Mathematics and the Committee for Mathematics Achievement to develop diagnostic and intervention programs for early mathematics through a \$3.9 million annual program established by the 2005 General Assembly. The program includes funds for the professional development and personnel costs of diagnostic intervention specialists, and the costs of the diagnostic and intervention programs through a competitive grant program offered to all school districts.

KDE partners with a group of Kentucky teachers from five districts and postsecondary faculty to develop and pilot Kentucky High School Diagnostic Mathematics Assessments in Algebra I, Geometry, and Algebra II. The purposes of the assessments are to: (1) inform teachers at important intervals as to whether students are ready for the next level of mathematics, and whether they are preparing students for the next level and (2) inform students of how well they are learning the mathematics needed for the next level.

**Science** - KDE partners with EDVANTIA, the U.S. Department of Education Office of Elementary and Secondary Education under the title of the Appalachia Eisenhower Regional Consortium for Mathematics and Science Education, to create professional development for Kentucky mathematics and science teachers. KDE trains the PD cadre of teams of mathematics and science teachers from each of eight regions of the state to work with school teams to target achievement of population subgroups. Middle and High School Science Alliances are

*professional learning communities* that involve all partners in the ongoing study of important conceptual and pedagogical issues facing middle and high school science teachers in the content areas as well as in inquiry. Content and pedagogy are at the forefront, with alliances focusing on developing, implementing and revising units of study or science end-of-course assessments.

KDE partners with the Louisville Science Center to design and deliver inquiry-based professional development for science classroom teachers, administrators and higher education professors, the Kentucky Department of Aviation for the development of curriculum and instructional strategies in mathematics, science and social studies with aviation connections, and Kentucky's three Challenger Learning Centers to deliver professional development consistent with Kentucky's Teacher Professional Development Standards and student learning standards.

**Cross Curricular** - KDE has an Inquiry Design Team to create multifaceted professional development delivery for teachers that extends inquiry-learning strategies across content disciplines. The Kentucky Secondary Alliance was organized in 2005 to bring focus and technical assistance to schools engaged in secondary reform. KDE provides ongoing support to middle and high school teachers and administrators. These professional experiences focus on school-based plans centered around small learning communities including ninth grade academies, interdisciplinary instructional teams, embedding rigor and relevance in the curriculum, adolescent literacy, targeted assistance and interventions for students in need of acceleration, an enhanced senior year, and access and quality in credit-based transition opportunities, including Advanced Placement and dual credit.

KDE collaborates with the CPE in the statewide GEARUP initiative to provide a sustained program of professional development aimed at improving the academic success of students in middle school and high school. Areas of focus are increasing the capacity of leadership to create a college going culture, increasing the content and pedagogical knowledge of teachers in the areas of math, science and reading, and using assessment to drive improvement in instruction and programming.

Annual Teacher Academies provide teachers the opportunity to expand their content knowledge and improve pedagogy through partnerships with the higher education community. The academy experience of the past is being transformed into professional learning communities through the development of diagnostic and formative assessments, course descriptions and units of study. These will be multi-district partnerships with higher education involvement.

**Early Childhood** - KDE provides many teaching and learning opportunities for early childhood professionals. The Kentucky Preschool Program requires teachers to hold the Interdisciplinary Early Childhood Education (IECE) Birth to Primary certificate. The IECE certification covers the range of abilities birth through kindergarten, regular and special education.

The Kentucky Preschool Regional Training Centers (RTCs) serve the early childhood community by forming a comprehensive system of professional development, technical assistance and training based on scientific research. Participants are required to develop and implement integrated standards-based units of instruction that support literacy, language, and early math development in young children.

The Building a Strong Foundation for School Success series are materials and documents that have been designed for all teachers who work with children, birth through age five, in center-based settings. Within the series is the *Kentucky Early Childhood Standards* (KECS), which reflect the range of developmental abilities for young children. The *Early Childhood Self-Study Guide* helps programs evaluate their services in a way that supports and promotes the early childhood standards. In addition, the *Continuous Assessment Guide* provides recommended guidelines for teachers to develop and implement a continuous assessment system for young children.

**Accountability:** KDE in cooperation with districts and schools has taken appropriate steps toward meeting highly qualified requirements of NCLB. Initially, districts and schools made appropriate determinations of the highly qualified status of all their teachers, based upon teacher assignments. In some cases, teachers and/or students were reassigned based upon definitions for highly qualified teachers or classes. Current data indicates approximately 96% of Kentucky's classes are taught by highly qualified teachers (99% of elementary classes, 95% of middle and high school classes), with the majority of classes not taught by highly qualified teachers being special education classes. Recent clarifications defining classes and content delivery should increase these percentages. Over the past few years, Kentucky schools have made great strides toward achieving the goal of 100% of classes taught by highly qualified teachers. In some cases, gains were not measurable due to teacher attrition.

Upon completion of the highly qualified teacher report in the spring of 2006, districts and schools will amend their plans for meeting the highly qualified teacher challenge. Districts and schools will establish annual measurable goals, which KDE will evaluate annually to determine if districts and schools are making progress. In addition, information and data regarding barriers that districts and schools must overcome to meet their goals will be analyzed for possible intervention by KDE. These data will support actions taken by KDE toward districts and schools that do not meet their highly qualified teacher goals. The actions will be implemented by KDE when district and school efforts are not deemed sufficient:

**Technical Assistance and Accountability plan** – Kentucky will implement a change in policy that establishes priority of need with regard to use of Title II, Part A funds. In accordance with NCLB requirements and guidelines for local use of funds, Kentucky will establish as priority one, that 100% of classes be taught by highly qualified teachers, with priority two being that 100% of teachers and administrators participate in scientifically based high quality professional development interventions, and all other needs to follow accordingly. Districts and schools will utilize Title II, Part A funds for high quality professional development initiatives specific to teacher's need to become highly qualified and coordinated with school-wide improvement efforts and/or to implement recruitment and retention strategies of highly qualified teachers. The consequence for not meeting these priorities will be: All teachers not deemed highly qualified will be actively working toward that goal, or districts will utilize Title II funds in such a way as to attract highly qualified teachers. Professional development will be adequately funded and all teachers and administrators will become active participants in school improvement efforts. Districts and schools may continue to utilize funds for general class size reduction teachers once they have addressed the aforementioned priority needs and are making adequate yearly progress in these areas.

The Education Trust

# FUNDING GAPS

## 2006

As Americans, we rightly take pride in the fact that the United States has led the world in extending free public education to *all* children, including those from racial and language minorities, those living in poverty, and those with disabilities. We extend this opportunity with the conviction that if given a fair shot at a good education these students, through hard work, can rise above the challenges they face and find a secure place at the heart of the American mainstream.

What many Americans don't fully understand, however, is that even as we've extended a free public education to all children, we've rigged the system against the success of some of our most vulnerable children. How do we do that? By taking the children who arrive at school with the greatest needs and giving them less in school. Our low-income and minority students, in particular, get less of what matters most; these students get the fewest experienced and well-educated teachers, the least rigorous curriculum, and the lowest quality facilities.<sup>1</sup>

At the core of these inequities is a set of school finance policy choices that systematically shortchange low-income and minority students and the schools and districts that serve them. In this unprecedented look at school funding across multiple levels—federal, state, and district—we show how funding choices at each of these levels tilt away from equity.

- The first analysis examines how *federal* education funds for low-income students are distributed *among states*. It finds that rich states are rewarded with richer federal aid packages, and that poor ones get less.
- The second set of analyses scrutinizes spending differences *among school districts within states* and finds that most states shortchange their highest poverty and highest minority school districts.

- The third analysis examines how school *districts* spend their money, and finds inequalities *within school districts*, with less money spent in schools serving the most disadvantaged students.

Taken together these analyses make clear how—despite our national commitment to fairness and educational opportunity for all—a series of separate school funding choices stack the deck against the students who need the greatest support from their schools.

Over the last several years, there's been a flurry of activity aimed at addressing the achievement gap that separates low-income students and students of color from their more affluent and White peers. Yet year after year test results show precious little progress. It's easy to understand why some are growing frustrated and even discouraged. But the truth is, despite the new attention to the gap, we so far have failed to address the fundamental inequities—such as the funding gaps highlighted in this report—that are buried deep in our education systems. And until these inequities are exposed and addressed by the adults who make the policy choices that affect children we will continue to undermine our professed goal of providing equal opportunities for all.

Funding is just the most easily measured among the myriad ways in which public education systematically puts students of color and low-income students—and the schools these students attend—at a disadvantage. Securing equity in funding would send a powerful signal that equity is more than just a rhetorical priority. Fairer finance systems are not a silver bullet, but they are a first step toward the harder work of substantive education improvement.

We offer this new report with the hope that the information provided herein will arm policymakers, parents, and educators with the facts they need to make new policy choices that will make real our aspiration to give every student a fair chance.



# How the Federal Government Makes Rich States Richer

By Goodwin Liu

*Assistant Professor of Law, Boalt Hall School of Law, and Co-Director, Chief Justice Earl Warren Institute on Race, Ethnicity and Diversity, University of California, Berkeley. This paper is adapted from a December 2006 article in New York University Law Review.*

Any serious effort by the federal government to improve equality of educational opportunity must confront a sobering and often neglected fact: Funding gaps *among* states are even larger than funding gaps *within* states. In 2003-04, the ten highest spending states spent an average of more than 50 percent more dollars per pupil than was spent by the lowest spending ten states. Low-spending states are clustered in the South, Southwest, and West, and serve a disproportionate share of the nation's poor children.

The purpose of Title I of the Elementary and Secondary Education Act is to level the educational playing field for poor children. Given this ambition, one would expect Title I to disproportionately benefit low-spending states, where low-income students are concentrated. But the reality is otherwise. Wealthier, higher-spending states receive a disproportionate share of Title I funds, thereby exacerbating the profound differences in education spending from state to state. Title I makes rich states richer and leaves poor states behind.

The problem lies in the Title I formulas. Under the three main formulas (basic, concentration, and targeted grants), each state's Title I allocation is largely a product of two factors. The first is the number and concentration of poor children in the school districts of each state. This factor benefits poorer states because they have disproportionate numbers of low-income children. But the second factor is the average per-pupil expenditure in the state. This state expenditure factor means that high-spending states get more Title I money per poor child than low-spending states. The net effect is that Title I does not reduce, but rather reinforces, inequality among states.

As Table 1 shows, interstate differences in Title I allocations are not small. Column A lists the number and percentage of the nation's poor children in each state in 2003, and column B lists each state's share of Title I funds in 2003. Together, columns A and B show that states do not receive Title I money in proportion to their shares of the nation's low-income children. Maryland, for example, had fewer poor children than Arkansas but received 51 percent more Title I aid per poor child. Massachusetts had fewer low-income children than Oklahoma but received more than

twice as much Title I aid per poor child. Similarly, Minnesota had fewer poor children than New Mexico but received 27 percent more Title I aid per poor child.

Column C shows each state's Title I funding per poor child in rank order. The amounts per poor child at the top are as much as double the amounts at the bottom, with the variation essentially mirroring interstate variation in per-pupil spending. (Some of the highest amounts in column C reflect statutory minimum allocations for small states.) When these data are adjusted for geographic differences in educational costs, the degree of interstate inequality is slightly reduced but still quite substantial.

The state expenditure factor might be defensible if it served as a reward or incentive for higher state spending on education. But this is implausible for two reasons. First, Title I aid is too small to realistically motivate additional state or local spending; states typically do not spend an additional dollar just to capture a few extra pennies. Second, by linking Title I aid to state per-pupil spending, the state expenditure factor primarily rewards state fiscal capacity (i.e., taxable wealth per pupil, shown in Column A in Table 2), not educational effort (i.e., willingness to tax that wealth, shown in Column B in Table 2). Nonfederal education revenue is more highly correlated with state fiscal capacity than with state effort, and states with higher capacity tend to exert lower effort. Thus, tying federal aid to state per-pupil spending does not reward effort so much as it rewards wealth. Indeed, in the examples above, the wealthier states (Maryland, Massachusetts, and Minnesota) exert less effort than the poorer states (Arkansas, Oklahoma, and New Mexico) but have higher per-pupil spending and thus receive higher Title I aid per poor child.

Simply put, the state expenditure factor in the Title I formula should be eliminated. This reform would bring Title I into line with the aid formulas for special education, English language instruction, and child nutrition, all of which assign equal weight to eligible children regardless of the state where they reside. Title I should simply allocate aid in proportion to each state's share of poor children. Moreover, instead of the state expenditure factor, Title I should include a cost factor to adjust for geographic

Table 1: Children in Poverty and Title I Allocations, 2003-2004 (with percentage of national total)

	A		B		C
	Poor children		Title I allocation		Title I allocation per poor child
Wyoming	9,796	0.1	\$28,964,809	0.3	\$2,957
Vermont	9,667	0.1	27,005,035	0.2	2,794
North Dakota	11,245	0.1	30,329,411	0.3	2,697
Massachusetts	112,570	1.3	260,050,569	2.3	2,310
New Hampshire	13,140	0.2	29,733,465	0.3	2,263
Alaska	14,330	0.2	30,431,327	0.3	2,124
Maine	25,025	0.3	47,816,946	0.4	1,911
Delaware	16,038	0.2	30,637,587	0.3	1,910
Connecticut	55,987	0.7	106,557,518	1.0	1,903
New York	638,992	7.6	1,184,751,800	10.7	1,854
New Jersey	155,082	1.9	272,032,782	2.4	1,754
South Dakota	19,125	0.2	32,000,786	0.3	1,673
Michigan	251,533	3.0	420,799,581	3.8	1,673
Pennsylvania	274,088	3.3	438,337,029	3.9	1,599
Rhode Island	27,313	0.3	43,155,247	0.4	1,580
Wisconsin	96,223	1.1	151,746,825	1.4	1,577
Kansas	55,419	0.7	87,046,905	0.8	1,571
Montana	25,827	0.3	40,458,865	0.4	1,567
Ohio	258,749	3.1	399,821,239	3.6	1,545
Minnesota	76,892	0.9	117,728,364	1.1	1,531
Maryland	101,153	1.2	153,983,710	1.4	1,522
West Virginia	63,503	0.8	94,167,837	0.8	1,483
Nebraska	32,413	0.4	46,769,850	0.4	1,443
Illinois	333,173	4.0	478,793,210	4.3	1,437
Hawaii	26,720	0.3	36,094,503	0.3	1,351
Missouri	146,574	1.7	194,886,735	1.8	1,330
California	1,288,493	15.4	1,649,697,459	14.8	1,280
Iowa	49,808	0.6	62,955,699	0.6	1,264
Oregon	93,069	1.1	115,317,070	1.0	1,239
Louisiana	207,871	2.5	256,175,473	2.3	1,232
Virginia	149,256	1.8	182,110,558	1.6	1,220
New Mexico	85,331	1.0	103,273,759	0.9	1,210
Indiana	129,878	1.6	156,540,820	1.4	1,205
Kentucky	138,101	1.6	162,957,050	1.5	1,180
Georgia	292,431	3.5	343,346,663	3.1	1,174
South Carolina	138,465	1.7	157,877,214	1.4	1,140
Washington	138,049	1.6	157,166,797	1.4	1,138
Texas	902,369	10.8	1,018,467,898	9.2	1,129
Mississippi	139,374	1.7	157,215,840	1.4	1,128
Idaho	35,921	0.4	39,875,687	0.4	1,110
Oklahoma	117,122	1.4	128,454,510	1.2	1,097
Tennessee	171,970	2.1	185,694,729	1.7	1,080
Colorado	96,512	1.2	104,115,332	0.9	1,079
Alabama	165,578	2.0	177,362,455	1.6	1,071
North Carolina	248,492	3.0	261,980,283	2.4	1,054
Florida	512,261	6.1	523,834,879	4.7	1,023
Arkansas	105,100	1.3	106,001,974	1.0	1,009
Utah	49,259	0.6	45,809,427	0.4	930
Nevada	59,296	0.7	53,216,311	0.5	897
Arizona	213,295	2.5	187,860,284	1.7	881

Source: U.S. Census Bureau, Small Area Income and Poverty Estimates, 2003 (children ages 5 to 17 in poverty); U.S. Department of Education Budget Tables, ESEA Title I Grants to Local Educational Agencies by State, 2003.

differences in educational costs. This approach would lessen interstate inequality because poor children are disproportionately concentrated in low-spending states and because equal federal dollars per eligible child provide a bigger boost, proportionally speaking, to low-spending states than to high-spending states.

Although eliminating the state expenditure factor in Title I would be a positive step, its effect on interstate inequality would be modest. A more serious effort to narrow interstate inequality requires three main policy components. First, the federal role in school finance must be substantially increased; the federal government cannot buy much equality when it spends only nine cents of every education dollar. Second, because interstate differences in education funding primarily reflect differences in fiscal capacity, federal aid should compensate for differences across states in their ability to support education. Medicaid provides an example of federal aid distributed in inverse proportion to state fiscal capacity. Third, in aiding states with low education spending, federal policy should distinguish between low fiscal capacity and low effort. Where low spending is due to low effort, the primary federal role should be to spur states toward greater effort. Congress could require low-effort states to gradually increase their effort up to a minimum threshold as a condition of receiving significantly expanded federal aid.

These reforms would not be cheap, and they would require robust political will. But the problem of interstate inequality is both glaring and longstanding. If we are serious about wanting to ensure that every child in America meets high standards, then we must develop a federal school finance policy equal to the task.

**Table 2 State Fiscal Capacity and Educational Effort by State, 2003-2004 (with percent of national average)**

	A		B		C	
	Total taxable resources (per pupil)		Educational effort		Nonfederal revenue (per pupil)	
Alabama	\$178,064	89	3.27	93	\$5,819	83
Alaska	159,139	80	3.66	104	5,822	83
Arizona	160,354	81	3.12	89	5,003	72
Arkansas	167,832	84	3.53	100	5,929	85
California	168,055	84	3.42	97	5,743	82
Colorado	230,315	116	2.96	84	6,818	98
Connecticut	253,996	128	3.44	98	8,737	125
Delaware	362,954	182	2.24	64	8,130	116
Florida	209,398	105	2.96	84	6,199	89
Georgia	195,964	98	3.80	108	7,453	107
Hawaii	225,548	113	3.82	109	8,627	123
Idaho	157,727	79	3.57	101	5,626	80
Illinois	209,172	105	3.35	95	7,010	100
Indiana	208,503	105	3.96	113	8,264	118
Iowa	224,688	113	3.40	97	7,645	109
Kansas	212,974	107	3.79	108	8,075	116
Kentucky	187,524	94	3.28	93	6,147	88
Louisiana	182,526	92	3.23	92	5,890	84
Maine	187,498	94	4.27	121	8,013	115
Maryland	252,749	127	3.22	91	8,140	116
Massachusetts	234,883	118	3.39	96	7,966	114
Michigan	181,531	91	4.24	120	7,688	110
Minnesota	234,525	118	3.48	99	8,152	117
Mississippi	148,437	75	3.62	103	5,380	77
Missouri	206,812	104	3.30	94	6,823	98
Montana	178,136	90	3.65	104	6,505	93
Nebraska	232,972	117	3.42	97	7,968	114
Nevada	226,288	114	2.81	80	6,362	91
New Hampshire	232,031	117	3.39	96	7,875	113
New Jersey	234,549	118	4.34	123	10,186	146
New Mexico	157,280	79	3.79	108	5,962	85
New York	226,166	114	4.08	116	9,216	132
North Carolina	213,979	108	2.90	82	6,201	89
North Dakota	229,595	115	3.15	89	7,223	103
Ohio	201,149	101	3.92	111	7,890	113
Oklahoma	163,416	82	3.50	100	5,725	82
Oregon	202,845	102	3.43	98	6,966	100
Pennsylvania	216,454	109	3.75	106	8,113	116
Rhode Island	207,837	104	3.62	103	7,534	108
South Carolina	177,184	89	3.81	108	6,746	96
South Dakota	241,334	121	2.72	77	6,557	94
Tennessee	206,282	104	2.61	74	5,388	77
Texas	170,616	86	3.68	105	6,282	90
Utah	146,631	74	3.31	94	4,857	69
Vermont	203,727	102	4.63	131	9,425	135
Virginia	248,386	125	2.95	84	7,340	105
Washington	206,431	104	3.07	87	6,343	91
West Virginia	166,089	83	4.27	121	7,086	101
Wisconsin	217,554	109	3.91	111	8,514	122
Wyoming	263,292	132	3.49	99	9,191	131

**Note:** "Total taxable resources" (column A) is a measure of state fiscal capacity developed by the U.S. Department of Treasury; 2003 figures are available at <http://www.treas.gov/offices/economic-policy/resources/estimates.shtml>. Nonfederal revenue data (column C) are from U.S. Census Bureau, Public Elementary-Secondary Education Finances: 2003-04 (table 1). The data in columns A and C are cost-adjusted dollars per weighted pupil. The cost adjustment applies the state-level Geographic Cost of Education Index in Jay G. Chambers, Geographic Variations in Public Schools' Costs (NCES Working Paper No. 98-04, 1998) (table III-3). Pupil weights are 1.9 for students with disabilities, 1.6 for students in poverty, and 1.2 for English-language learners. Enrollment data used to derive weighted pupil counts are from NCES, Digest of Education Statistics 2005 (table 33 (fall 2003 enrollment) and table 52 (children ages 6 to 21 served under the Individuals with Disabilities Education Act, Part B, 2003-04)); U.S. Census Bureau, Small Area Income and Poverty Estimates, 2003 (children ages 5 to 17 in poverty); and U.S. Department of Education, National Clearinghouse for English Language Acquisition and Language Instruction Educational Programs, ELL Demographics by State, 2003-04. Dividing column C by column A yields the "Educational effort" figures in Column B. Across the states, nonfederal revenue is more strongly correlated with fiscal capacity (.62) than with effort (.45). Further, capacity and effort are negatively correlated (-.39). With some exceptions, states with higher capacity tend to make less effort yet raise more revenue than states with lower capacity.

# How States Shortchange the Districts That Need the Most Help

By Ross Wiener and Eli Pristoop

*Education Trust*

States bear primary responsibility for public education.<sup>2</sup> As education has become more important to being an active citizen and earning a livelihood, states have increasingly exercised their authority to set rules for who can teach, what students are expected to learn in school, and how student learning is measured. Just as important, states determine how—and how equitably—education is funded.

The analyses on the pages that follow examine how well the states are living up to their obligation to fund public education equitably. There are encouraging examples of states that have stepped up to their responsibilities, but on the whole these data reveal serious problems with most state funding systems.

## What This Analysis Does—and What it Does Not Do

This analysis focuses on state and local revenues. Federal revenues (which made up 8.9 percent of public school revenues in 2004) are not included, in order to isolate the specific effect of *state* policies on the educational opportunities provided to low-income children and children of color. Federal education funds are specifically meant to supplement, not supplant, state and local revenues. So it is appropriate to examine whether state policies equitably support public education in high-poverty and high-minority districts.<sup>3</sup> When states fail to equitably fund public education, federal funds are forced to make up for shortfalls, instead of providing the additional opportunities Congress intended.

Second, the analysis does not examine whether funding in any particular state is *adequate*. Rather, taking current spending as it is, this analysis asks whether the districts with the highest concentrations of low-income students and students of color are getting their fair share of state money.

Third, this report examines school district revenues, not practices or policies in terms of how the money is spent. At the Education Trust, we are acutely aware that how money is spent matters immensely in whether education is improved. We spend most of our time and energy trying to improve practice and policy so that existing resources in public

education are used effectively. But we also know that many necessary improvements in the education of low-income and minority students will cost money.

Fourth, we have applied a consistent methodology to examining funding equity in 49 states (the exception is Hawaii, which operates a single, statewide school district). This methodology, which is described in the text and explained in detail in the technical appendix, allows for cross-state comparisons and provides good information on how funding is distributed between high- and low-poverty and high- and low-minority districts. But it is not ideally suited to analyzing a few unique state contexts. For example, the Clark County school district, home to Las Vegas, serves approximately 70 percent of Nevada's public school students, so it is not possible to divide Nevada's districts into comparable quartiles.

We do not mean to imply that we have described the full range of school funding inequities. States that do not necessarily show large funding disparities in this analysis might show inequities if looked at through a different lens. We encourage researchers and advocates to use this data as a starting point for additional analysis.

## How We Did the Analysis

This study analyzes annual financial data from each of the nation's approximately 14,000 public school districts, gathered by the U.S. Census Bureau and the U.S. Department of Education. The calculations are based on the total amount of state and local revenues each district received for the 2003-2004 school year, the latest year for which such financial data are available.<sup>4</sup>

To calculate funding gaps for each state, we compare average state and local revenues per student in the highest-poverty school districts—those in the top 25 percent statewide in terms of the percent of students living below the federal poverty line—to per-student revenues in the lowest poverty school districts.<sup>5</sup> These quartiles are built so each contains approximately the same total number of students. This procedure also is used to establish comparable quartiles for analyzing funding in high- and low-minority school districts.

The analysis accounts for the fact that school districts vary in how much they need to spend depending on the different prices they have to pay for goods and services and the different kinds of students they have. Accordingly, we adjust for the local cost of providing education. In 2006, the National Center for Education Statistics released a new formula for adjusting for cost differences across school districts across the entire United States, and we applied that formula in these analyses.<sup>6</sup> Using this new formula allows for the most fair comparisons across districts, but it makes the data in this report not perfectly comparable to previous Education Trust *Funding Gap* reports.

Similarly, we adjust our calculation of school district revenues based on the number of special education students enrolled, recognizing that districts with disproportionately more students with disabilities have higher costs and, thus, effectively less money to spend. The formula we used for this adjustment was developed by the American Institutes of Research and is widely used in school funding analyses.<sup>7</sup>

### **Most States are Unfair to Their High-Poverty and High-Minority Districts**

In 26 of the 49 states studied, the highest poverty school districts receive fewer resources than the lowest poverty districts.<sup>8</sup> As can be seen in Table 3, across the country, state and local funds provide \$825 per student less in the highest poverty districts than in the most affluent districts.<sup>9</sup> Four states—Illinois, New Hampshire, New York, and Pennsylvania—shortchange their highest poverty districts by more than \$1,000 per student per year. These states, and others that allow funding gaps to persist, are compounding the disadvantages that low-income students face outside of school and undercutting public education's ability to act as an engine of social mobility.

In 28 states, high-minority districts receive less state and local money for each child than low-minority districts (Table 4). Across the country, \$908 less per student is spent on students in the districts educating the most students of color, as compared to the districts educating the fewest students of color.<sup>10</sup>

### **Equal Dollars Are Not Good Enough**

The absolute dollar numbers in Table 3 actually understate the inequity suffered by high-poverty districts. To educate children growing up in poverty to common, meaningful standards costs more. Children from low-income families need more instructional time and especially well trained teachers. To provide another way of looking at state funding gaps, we also calculate the gaps with a 40 percent adjustment for educating students growing up in poverty.<sup>11</sup>

We use this 40 percent adjustment because it is included in the federal Title I formula to determine whether state funding policies are fair to low-income students. Title I funding to states that do not meet this standard is reduced.<sup>12</sup> Studies that have attempted to quantify the additional costs of educating students growing up in poverty have often produced higher adjustments. Maryland, for example, determined that it would require virtually double the foundation funding to educate low-income students up to its state standards, and phased in a funding formula to meet that goal beginning in 2002.<sup>13</sup> Others, such as Professor Liu, use a 60 percent adjustment.

Applying the 40 percent adjustment, the number of states that underfund school districts serving large numbers of poor children grows to 34, and the national gap goes from \$825 to \$1,307. Underneath this national gap lie huge differences among the states. Six states have per-student funding gaps that exceed \$1,000 between high- and low-poverty districts; once the 40 percent adjustment is applied, Michigan and Montana join the four states that have funding gaps in excess of \$1,000 (Illinois, New Hampshire, New York, and Pennsylvania).

A similar analysis based on districts serving students of color finds the same pattern: After the 40 percent adjustment for low-income students is made, school districts serving the largest concentrations of students of color receive \$1,213 less per child than school districts serving the fewest children of color every year. (No adjustment is made on the basis of the percent minority enrollment.) Thirty states have funding gaps between their highest and lowest minority districts, and twelve have funding gaps that exceed \$1,000 per child (Colorado, Illinois, Kansas, Montana, Nebraska, New Hampshire, New York, North Dakota, South Dakota, Texas, Wisconsin, and Wyoming).

#### **How to Read Tables 3 and 4**

Tables 3 and 4 illustrate the gap in funding between highest and lowest poverty districts (Table 3) and highest and lowest minority districts (Table 4). When highest poverty and highest minority districts receive less per pupil, the gaps are shown with negative numbers. So, for example, the highest poverty districts in Alabama receive an average of \$323 less per student than the lowest poverty districts, and the highest minority districts receive an average of \$241 per student less than the lowest minority districts. In states where the highest poverty districts receive more money per pupil, the number is positive. So, for example, the highest poverty districts in Minnesota receive \$1,349 per student more than the lowest poverty districts.

Table 3: Poverty Funding Gaps by State, 2004

State	Gap Between Revenues per Student in the Highest - and Lowest - Poverty Districts (no adjustment for low-income students)	Gap Between Revenues per Student in the Highest - and Lowest - Poverty Districts (40% adjustment for low-income students)
Alabama	-\$323	-\$656
Alaska	2,474	2,054
Arizona	-225	-736
Arkansas	-158	-500
California	218	-259
Colorado	-70	-440
Connecticut	666	59
Delaware	-207	-371
Florida	-272	-461
Georgia	156	-292
Hawaii	*	*
Idaho	-55	-257
Illinois	-1,924	-2,355
Indiana	518	93
Iowa	82	-176
Kansas	-549	-885
Kentucky	852	448
Louisiana	-200	-481
Maine	-137	-543
Maryland	-123	-432
Massachusetts	1,299	694
Michigan	-573	-1,072
Minnesota	1,349	950
Mississippi	207	-191
Missouri	190	-271
Montana	-789	-1,148
Nebraska	515	210
Nevada	-249	-297
New Hampshire	-1,084	-1,297
New Jersey	1,824	1,069
New Mexico	1,106	679
New York	-2,319	-2,927
North Carolina	-344	-543
North Dakota	271	17
Ohio	683	113
Oklahoma	133	-213
Oregon	579	302
Pennsylvania	-1,001	-1,511
Rhode Island	311	-394
South Carolina	414	127
South Dakota	-147	-438
Tennessee	591	330
Texas	-249	-757
<b>USA</b>	<b>-825</b>	<b>-1,307</b>
Utah	860	663
Vermont	-403	-894
Virginia	-114	-436
Washington	196	-110
West Virginia	-22	-345
Wisconsin	-351	-742
Wyoming	-303	-539

Table 4: Minority Funding Gaps by State, 2004

State	Gap Between Revenues per Student in the Highest - and Lowest - Minority Districts (no adjustment for low-income students)	Gap Between Revenues per Student in the Highest - and Lowest - Minority Districts (40% adjustment for low-income students)
Alabama	-\$241	-\$437
Alaska	4,955	4,435
Arizona	-230	-680
Arkansas	445	253
California	-160	-499
Colorado	-799	-1,032
Connecticut	-74	-602
Delaware	408	353
Florida	17	-106
Georgia	566	271
Hawaii	*	*
Idaho	-836	-849
Illinois	-1,223	-1,524
Indiana	1,345	1,096
Iowa	-327	-414
Kansas	-1,514	-1,630
Kentucky	150	274
Louisiana	355	111
Maine	-817	-874
Maryland	-302	-454
Massachusetts	1,663	1,139
Michigan	68	-251
Minnesota	898	623
Mississippi	413	26
Missouri	795	662
Montana	-1,787	-1,838
Nebraska	-1,280	-1,374
Nevada	-470	-496
New Hampshire	-2,371	-2,392
New Jersey	1,730	1,087
New Mexico	246	18
New York	-2,239	-2,636
North Carolina	-211	-296
North Dakota	-1,259	-1,290
Ohio	1,285	942
Oklahoma	-133	-383
Oregon	222	127
Pennsylvania	-454	-709
Rhode Island	-21	-639
South Carolina	392	206
South Dakota	-962	-1,140
Tennessee	275	202
Texas	-792	-1,167
<b>USA</b>	<b>-908</b>	<b>-1,213</b>
Utah	-202	-311
Vermont	-800	-613
Virginia	418	239
Washington	-87	-225
West Virginia	244	290
Wisconsin	-1,043	-1,270
Wyoming	-1,020	-1,041

**Note:** All dollar amounts in this chart have been adjusted to account for regional cost differences and the additional cost of educating students with Individualized Education Programs. This has the effect of reducing the effective level of funding in high-cost districts and districts with large numbers of students with disabilities. In addition, the third column in this table contains gap numbers that have been adjusted to account for the additional cost of educating low-income students (40% adjustment). For a more detailed explanation of the methodology used in this report, see the Technical Appendix.

**Source:** Education Trust calculations based on data from U.S. Census Bureau and U.S. Department of Education data for the 2003-2004 school year.

Some states demonstrate that equitably funding education is possible. Kentucky and Massachusetts, for example, have targeted more money to high-poverty districts and coupled the monetary resources with meaningful accountability and technical assistance—and real progress has been accomplished.<sup>14</sup> But equitable funding is not a panacea. Washington, for example, does not distribute its money in a particularly unfair way in comparison to other states, but that does not make up for the fact that it simply spends less on education than other states with similar wealth. There are, of course, examples where increased education funding has not translated into commensurate improvements in teaching and learning. We have to confront those issues seriously, but ignoring or condoning funding gaps only makes it harder to tackle the substantive problems.

**Per-Student Funding Gaps Add Up**

<b>For example, when you consider the per-student funding gap for low-income students (without 40-percent adjustment for low-income students) in...</b>	<b>Between two typical classrooms of 25 students, that translates into a difference of....</b>	<b>Between two typical elementary schools of 400 students, that translates into a difference of....</b>	<b>Between two typical high schools of 1,500 students, that translates into a difference of....</b>
New York	\$57,975	\$927,600	\$3,478,500
Illinois	\$48,100	\$769,600	\$2,886,000
Michigan	\$14,325	\$229,200	\$859,500
North Carolina	\$8,600	\$137,600	\$516,000
Delaware	\$5,175	\$82,800	\$310,500

**Table 5: Percent of Elementary-Secondary Public School System Revenue from Local Sources by State: 2003-2004**

<b>State Name</b>	<b>Percent of System Revenue from Local Sources</b>
Alabama	32.8
Alaska	25.7
Arizona	43.3
Arkansas	15.4
California	34.1
Colorado	49.6
Connecticut	59.7
Delaware	27.9
Florida	45.6
Georgia	46.7
Idaho	31.6
Illinois	56
Indiana	44
Iowa	45.5
Kansas	40.8
Kentucky	30.4
Louisiana	38.2
Maine	50.4
Maryland	55.9
Massachusetts	53.6
Michigan	30
Minnesota	22.6
Mississippi	30.3
Missouri	47.9
Montana	40.4
Nebraska	58.2
Nevada	32.4
New Hampshire	48.6
New Jersey	53.3
New Mexico	13.1
New York	48.9
North Carolina	32.5
North Dakota	46.7
Ohio	49.2
Oklahoma	36.1
Oregon	38.2
Pennsylvania	56.1
Rhode Island	52.3
South Carolina	43.6
South Dakota	50.3
Tennessee	45.6
Texas	52.7
Utah	34.7
Vermont	23.9
Virginia	54.3
Washington	29.7
West Virginia	28.7
Wisconsin	41.7
Wyoming	38
<b>USA</b>	<b>43.9</b>

Source: "Public Education Finances 2004", US Census Bureau, March 2006, Page 5, Table 5.

## States Can Close Funding Gaps

Education reform poses many complicated issues, where additional innovation and research is still needed. Making education funding more fair, however, is not one of these issues. States need to take a greater share of education funding and target more money to the districts with the biggest challenges.

First, states should reduce reliance on local property taxes. As shown in Table 5, states vary dramatically in the extent to which local taxes fund schools—from a low of 13 percent in New Mexico to a high of 60 percent in Connecticut. Because wealth and property value are so unequally distributed, using local taxes as the primary resource for schools inherently gives wealthier communities an advantage in providing better educational opportunities. It is antithetical to states' professed commitments to close achievement gaps to rely on local communities to fund education. This tradition reinforces privilege, exacerbates inequality, and is anachronistic at a time when we expect

all students within a state to meet consistent, meaningful standards.

Once states assume more responsibility for education funding, they should target funds to help educate low-income children. In Massachusetts, for example, local taxes account for a majority of public schools' revenue, but state funding is highly targeted, which allows the state to do more to address funding equity than some other states. Wisconsin, in contrast, actually allocates a majority of all public education revenue at the state level, but still maintains funding gaps that disadvantage both high-poverty and high-minority districts.

It is unfair that children's educational horizons are limited by their neighborhoods' demographics. As state education systems grow into their responsibilities in a standards-based world, they need to ensure that budgets reflect fairness and that resources are targeted to districts with the most need. Aligning state education funding policies with goals would mark necessary, but not sufficient, progress toward equality of educational opportunity.

# How Districts Shortchange Low-income and Minority Students

By Marguerite Roza

*Research Assistant Professor in the Center on Reinventing Public Education at the Daniel J. Evans School of Public Affairs at the University of Washington.*

It is well known that some school districts have more money to spend than others with consequent ill effects on poor and minority students. Analyses such as the ones contained in this report and well-publicized court cases have long documented the inequities between wealthier and poorer school districts.

Less well known is that, almost universally, school districts themselves magnify those initial inequities by directing more non-targeted money to schools and students with less need. Even school districts that claim to be spending more on high-poverty and high-minority schools can in fact spend considerably less, leading to predictable and devastating results for low-income and minority students.

To understand how these inequities develop within districts, it is necessary to understand the way school budgets are built. Typically, district budget documents report how money is spent by category and program rather than by school. As a result, even superintendents and school board

members often do not know whether they spend more money on one school than another or whether they spend more or less on low-income and minority students. Layered onto those opaque accounting practices are long-established policies and practices—particularly regarding personnel assignments—that virtually guarantee that low-income and minority children have access to fewer resources than their more advantaged peers.<sup>15</sup>

No large-scale national databases or analyses can be used to see these problems. However, in the last five years I and others have carefully analyzed the spending patterns of dozens of districts in more than 20 states. In some cases the districts only allowed us to examine their finances with the understanding that we would not name them. However, we can say that in many ways they typify large and medium-sized districts throughout the country. Two major patterns emerged in almost every district studied and can be presumed to be replicated in most large and medium-sized school districts.

- 1) Less money is spent on salaries in high-poverty schools than on salaries in low-poverty schools within the same district.
- 2) Districts assign a larger share of unrestricted funds to low-poverty schools.

Let us examine each of these inequitable patterns.

**1) Less money is spent on salaries in high-poverty schools than on salaries in low-poverty schools within the same district.**

Evidence abounds that in many school districts the most experienced and highly paid teachers congregate in the district's more affluent schools. At the same time, the least qualified, lowest paid teachers tend to serve in the schools with the highest numbers of low-income and minority students. A typical pattern is that a new teacher will start his or her career at a high-poverty school and, as he or she gains experience and moves up the pay scale, will transfer to a more affluent school. District transfer policies, sometimes codified in teacher union contracts, help facilitate this migration pattern. Additionally, after teaching in high-poverty schools, some newer teachers leave the profession, also contributing to the teacher turnover in the schools.

Although there are no guarantees that teacher experience is an indicator of teacher quality, researchers generally agree that teacher effectiveness increases during the first five to seven years of teaching. Educationally, the migration pattern of teachers means that students who attend high-minority and high-poverty schools have a lower chance of encountering a teacher at the peak of his or her effectiveness than students who attend more affluent schools with fewer students of color.

Financially, such teacher migration patterns mean that considerably less salary money is spent on high-poverty and high-minority schools. This disparity is often hidden by the fact that most district budgets report the distribution of staff *positions* at individual schools and not the distribution of teacher *costs* or teacher quality. Typically a district will allocate one teacher to a set number of students across all schools or types of schools (for example, all elementary schools will have a 1:18 ratio or all high schools will have a 1:22 ratio). The district will then report salaries at a particular school as the number of positions multiplied by the average salary paid by the district. By reporting salaries in this way (known as salary averaging), school districts disguise the actual salaries paid at individual schools.

When actual salaries are examined, the differences between high-poverty schools and low-poverty schools are significant and pervasive, as shown in Table 6.

**Table 6: Gap between average teacher salaries in top and bottom poverty quartiles, by school district (2003-2004)**

District	Salary Gap
Austin*	\$3,837
Dallas*	\$2,494
Denver*	\$3,633
Fort Worth*	\$2,222
Houston*	\$1,880
Los Angeles**	\$1,413
Sacramento**	\$4,846
San Diego**	\$4,187
San Francisco**	\$1,286
San Jose Unified**	\$4,008

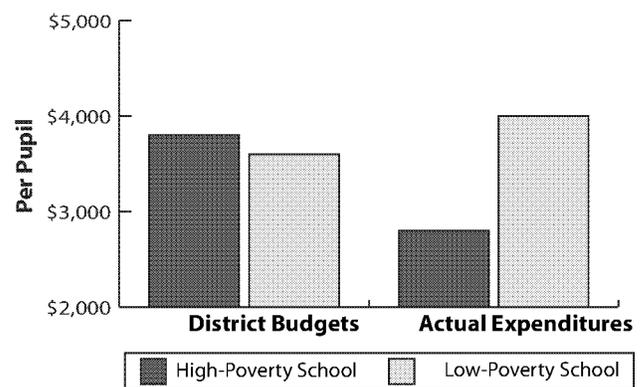
Sources: \*Center for Reinventing Public Education Analyses, 2005  
 \*\*Education Trust, Hidden Funding Gap, 2005, available at <http://www.hiddengap.org/>

In each city cited here, the district effectively spends less on teaching in schools with high concentrations of low-income students. And these are not the most extreme examples. A 2002 analysis of Baltimore City showed that teachers at one high-poverty school were paid an average of almost \$20,000 less than those at another school in the same district.<sup>16</sup>

Salary differences translate into big effects on school spending. For a school with 600 students and 25 teachers, a \$4,000 average salary gap creates a difference of \$100,000 per school. For a school with 1,700 students and 100 teachers, that is a difference of \$400,000 per school.

Members of the general public often believe that high-poverty and high-minority schools receive more money than other schools because they know that there are special programs targeted to high-poverty schools. In some cases, however, targeted funds don't even make up for the salary differences.

**Figure 1: Salary Averaging Diverts Resources Budgeted for High-Poverty Schools to Low-Poverty Schools\***



Source: Roza, Marguerite and Paul Hill. "How Within-District Spending Inequities Help Some Schools to Fail," Brookings Papers on Education Policy (2004).

## 2) Districts further exacerbate inequality by assigning a larger share of unrestricted funds to low-poverty schools.

Each school in a district is supposed to receive an equal share of unrestricted funds, in addition to whatever categorical allocations are intended for the special needs of the students it has (such as for special education services or English-language instruction). Even after the salary differences between high- and low-poverty schools are accounted for, low-poverty schools still get more than their share of unrestricted dollars. In fact, salary differences only explain between 20 and 80 percent of the differences between spending at high- and low-poverty schools.

This somewhat unexpected finding first emerged in various analyses some two years ago,<sup>17</sup> and other recent analyses confirm it. For example, data from the Public Policy Institute of California documented that low-poverty elementary schools tend to have larger teacher/pupil ratios and higher non-teacher expenditures than higher poverty schools.<sup>18</sup>

**Table 7: Unrestricted spending per pupil in elementary schools across sampled California Districts**

Category	Low Poverty	High Poverty
Unrestricted Teacher Expenditures	\$2570	\$1973
Teachers per 1000 students	44.9	41.5
Average teacher salary	\$57,242	\$47,545
Unrestricted Other Expenditures	\$1839	\$1648
<b>Total Unrestricted</b>	<b>\$4409</b>	<b>\$3621</b>

Source: Rose, et. al (2006)

Interviews with district leaders have helped make sense of how and why this happens in their districts. Sometimes the placement of more expensive magnet or alternative programs drives up the costs in schools with fewer low-income students. In Chicago, for instance, selective enrollment schools (those with admission requirements) spend some 15 percent more than the district average per pupil.<sup>19</sup> In one district, the more affluent communities have smaller schools where per-pupil costs are higher. More often, the patterns are created in response to pressures to equalize services across all schools. Where earmarked categorical funds such as federal Title I money pay for such extra services as full-day kindergarten or reading specialists in high-need schools, more flexible state and local money is often used to fund the same services in the low-need schools.

The result is that general or unrestricted funds are skewed toward schools that do not qualify for targeted programs. Even when states restrict certain funds to

provide extras for low-income students, school districts use unrestricted funds to provide similar services to more affluent students.

While the patterns somewhat vary by district, it is clear that most districts distribute the state and local funds they control inequitably. Again, this is masked by the way budgets are reported, showing expenditures coded by activity, function, and program, but not by school or student.

Emerging research indicates that there may be yet another way local districts shortchange low-income and minority students by inequitably distributing categorical funds targeted to specific kinds of students, such as money targeted to English-language learners. The way this seems to work is that districts put equally funded programs into schools regardless of how many students need them. For example, a district might allocate \$100,000 to each school with English-language learners, even though one school might have 200 students with limited English proficiency and another—often a more affluent school—might have only 20. This results in a per-pupil cost of \$500 in the first school and \$5,000 in the second. The research into this practice is still in the early stages<sup>20</sup> and deserves further scrutiny.

The important point here is that school budgets are tangled webs, and it takes considerable amounts of analytic energy to unravel them in order to understand exactly how money is spent and on which students. When examined closely, however, it is clear that the typical school budget document is used to conceal very inequitable spending patterns.

To change these patterns, school boards, superintendents, and members of the general public should demand that budget documents be much more accurate and transparent so that all involved know exactly how resources are being distributed among different schools within the same school district. Accuracy demands that school budgets reflect actual teacher salaries, not district averages. Relying on average teacher salaries obscures the fact that less teacher salary money is allocated to the highest poverty and highest minority schools, where novice teachers and those with the least credentials are concentrated. One hopeful sign is that California, Texas, and Colorado have recently changed their school accounting practices to make it easier for school districts to report actual salaries by school level.

Collecting and disseminating truthful information about individual school budgets will help in acknowledging the problems, but it will take deliberate policies to change the underlying inequities. An increasing number of districts, including some of those that have allowed me and my colleagues to study them, are adopting student-based

allocation policies known as weighted student funding.<sup>21</sup> Others are changing the way teachers are compensated in order to change the way teacher talent and experience are distributed. If public school systems are serious about closing achievement gaps, they must begin to allocate more resources to the students with the greatest need. The previous sections of this report illustrate the important role of federal and state policies, but we cannot achieve real funding equity until we design school budgets that better respond to student needs.

# Conclusion and Recommendations

The fundamental promise of standards-based reform is that inputs vary so that outcomes can be held constant. While there are many intangibles on the input side of the education equation, we can at least measure whether money is being appropriately targeted to provide extra support to the students and schools who start out behind. By this score, we have yet to deliver on the promise of standards-based reform.

For standards and accountability to represent more than a hollow exhortation to “do better,” education funds must be directed to the places where they are most needed. Changing how education funds are distributed presents political challenges, but isolated progress at every level of government demonstrates that these issues can be overcome. Education is too important to our identity as Americans – and who we aspire to be – to allow current funding inequities to persist.

Below are recommendations for each level of government.

## Federal Government

- **Invest more in education.** Despite a 40 percent increase in Title I funding within three years of enacting *No Child Left Behind* (NCLB), the federal government still only provided 8.9 percent of public education funds in 2004. There is only so much equity that can be secured with 9 cents of every education dollar.
- **Target federal funds to high-poverty states.** Title I currently rewards states that spend more on education without regard to differences in state capacity, which compounds the disadvantage of living in a low-wealth state. Federal policy should distinguish among states based on their effort in education funding, and help to address differences in capacity.
- **Use federal funds more aggressively to force states and districts to disburse their own funds equitably.** State and local policy have to be aligned with the national goal of closing achievement gaps, or the relatively small amount of federal funds will represent mere drops in a leaky bucket. Congress could start by updating the “comparability” provisions in Title I, which allow states to ignore inequities in state/local funding in Title I schools.

## State Governments

- **Take more responsibility for education funding.** As the constitutional guarantors of educational opportunity, states should ensure that public schools are funded adequately regardless of community wealth. Because the traditional role of local property

taxes in funding local school districts inherently puts low-wealth and low property value communities at a disadvantage, states should rely more on statewide sources of revenue.

- **Target more funding to high-poverty districts.** Disbursing education dollars at the state level creates the opportunity for more equitable funding, but does not make equity inevitable. States need to assess the relative challenges across school districts and ensure that funding equitably addresses these challenges.
- **Set funding equity standards for school districts.** States have devolved authority for funding individual schools to school districts, but this cannot allow states to abdicate responsibility for ensuring equitable educational opportunities within districts.

## Local School Districts

- **Publish transparent budget and allocation figures.** While the destination of federal and state funds is easily traceable at the school-district level, school district budgets remain opaque and expenditures are often not even tracked at the school level. The lack of transparency shields local spending patterns from scrutiny and provides cover for pervasive and indefensible inequality among schools within the very same school districts.
- **Examine contract and budgeting provisions that perpetuate inequality.** Most school districts have negotiated away their ability to use differential pay to attract and retain the best teachers in the hardest-to-staff schools. Along with salary-averaging budgeting practices, this helps concentrate the most highly paid teachers in the schools with the fewest low-income students and students of color.
- **Implement weighted student funding.** To make good on the promise of educating just about all students to a common standard, we have to identify students’ needs and then allocate funds proportionate to those needs. School budgets currently are oriented to funding programs and staff allocations, without adequate differentiation based on student needs.

Pitched debates have been joined over whether it is possible for public education to educate all students to meaningful levels of academic proficiency. The truth is that we cannot know how much more is possible until we adjust our systems toward this goal. It would be a shame if the debates over what’s possible in public education were resolved without addressing patent unfairness in education funding.

# Appendix

**Table 8: Percent Distribution of Elementary-Secondary Public School System Revenue by Source and State, 2003-2004**

State	Federal	State	Local
Alabama	11.7	55.5	32.8
Alaska	19.4	54.9	25.7
Arizona	11.8	44.9	43.3
Arkansas	12.5	72.1	15.4
California	11.4	54.5	34.1
Colorado	6.7	43.7	49.6
Connecticut	5	35.3	59.7
Delaware	8.1	64	27.9
District of Columbia	15.4	.	84.6
Florida	10.1	44.4	45.6
Georgia	8.5	44.8	46.7
Hawaii	11.1	86.6	2.4
Idaho	10.2	58.2	31.6
Illinois	8.6	35.5	56
Indiana	6.4	49.6	44
Iowa	8.3	46.2	45.5
Kansas	7.8	51.4	40.8
Kentucky	11.8	57.8	30.4
Louisiana	13.8	48	38.2
Maine	8.9	40.7	50.4
Maryland	6.4	37.7	55.9
Massachusetts	6.5	39.8	53.6
Michigan	7.9	62	30
Minnesota	6	71.4	22.6
Mississippi	14.9	54.9	30.3
Missouri	7.9	44.2	47.9
Montana	15.2	44.4	40.4
Nebraska	9	32.8	58.2
Nevada	7.2	60.4	32.4
New Hampshire	5.6	45.8	48.6
New Jersey	4.3	42.4	53.3
New Mexico	17.2	69.7	13.1
New York	7.5	43.6	48.9
North Carolina	9.7	57.9	32.5
North Dakota	15.2	38.1	46.7
Ohio	6.9	43.9	49.2
Oklahoma	12.8	51.1	36.1
Oregon	9.1	52.7	38.2
Pennsylvania	8	35.9	56.1
Rhode Island	7.2	40.5	52.3
South Carolina	10.4	46	43.6
South Dakota	15.6	34.2	50.3
Tennessee	11	43.4	45.6
Texas	10.5	36.8	52.7
Utah	10	55.3	34.7
Vermont	8	68	23.9
Virginia	7	38.7	54.3
Washington	8.5	61.8	29.7
West Virginia	11.3	60	28.7
Wisconsin	6.1	52.2	41.7
Wyoming	9.9	52.1	38
<b>USA</b>	<b>8.9</b>	<b>47.1</b>	<b>43.9</b>

**Notes:** Some data appear under local sources for Hawaii's state-operated school system for consistency with data presented for all other school systems.

**Source:** Public Education Finances 2004, US Census Bureau, March 2006, Table 5.

# Endnotes

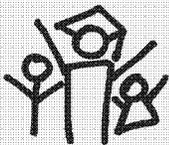
- 1 For disparities in access to teacher quality, see Peske, H., and Haycock, K. *Teaching Inequality: How Poor and Minority Students Are Shortchanged on Teacher Quality*; Education Trust, 2006. For disparities in access to challenging curriculum, see Barth, Patte, *A New Core Curriculum for All*, The Education Trust, 2003. Both reports are available under reports and publications at [www.edtrust.org](http://www.edtrust.org). The specific urls are (Peske and Haycock): <http://www2.edtrust.org/NR/rdonlyres/010DBD9F-CED8-4D2B-9E0D-91B446746ED3/0/TQReportJune2006.pdf>; and (Barth): [http://www2.edtrust.org/NR/rdonlyres/26923A64-4266-444B-99ED-2A6D5F14061F/0/k16\\_winter2003.pdf](http://www2.edtrust.org/NR/rdonlyres/26923A64-4266-444B-99ED-2A6D5F14061F/0/k16_winter2003.pdf). For an examination of disparity in facilities and capital improvements, see Filardo, Mary, et. al, *Growth and Disparities: A Decade of U.S. Public School Construction, Building Educational Success Together (BEST)*, 2006, available at <http://www.edfacilities.org/pubs/GrowthandDisparity.pdf>.
- 2 Almost every state's constitution creates an affirmative obligation to provide public education. See discussion in, for example, Thro, William E., "The Role of Language of the State Education Clauses in School Finance Litigation," *West's Education Law Reporter*, vol. 2 no. 2, 1993.
- 3 Non-supplantation language is common in federal education statutes; for an example, see Section 1120(A)(b)(1) of the No Child Left Behind Act, which says, "A State educational agency or local educational agency shall use Federal funds received under this part only to supplement the funds that would, in the absence of such Federal funds, be made available from non-Federal sources for the education of pupils participating in programs assisted under this part, and not to supplant such funds."
- 4 Local revenues include local property taxes used for school facilities, construction bonds, etc. For a more detailed explanation of the data sources and methodology used to generate the numbers used in the report, see the Technical Appendix, available as a separate document on The Education Trust web site, [www.edtrust.org](http://www.edtrust.org).
- 5 The poverty rate in this analysis is defined as the percent of people ages 5 to 17 living in each school district with a household income below the federal poverty line, as estimated by the U.S. Census Bureau. In 2003, the poverty line for a family of four with two children was \$18,660. <http://www.census.gov/hhes/poverty/threshld/thresh03.html>. It should be noted that this is a more restrictive definition of poverty than eligibility for the federal free or reduced-price lunch programs, which include students with income at or below 130 percent and 185 percent of the poverty line, respectively (Federal Register, Vol. 68, No. 49, Notices). Federal Title I funds are distributed to states and local districts on the basis of poverty. Districts often then use the free and reduced-price lunch programs to distribute Title I money to schools.
- 6 Taylor, L.L., and Fowler, W.J., Jr. *A Comparable Wage Approach to Geographic Cost Adjustment* (NCES 2006-321), U.S. Department of Education. Washington, DC: National Center for Education Statistics, 2006.
- 7 Chambers, Jay et al, *What Are We Spending on Special Education Services in the United States, 1999-2000?* American Institutes for Research, Center for Special Education Finance, 2002. For more information see the Technical Appendix, available at [www.edtrust.org](http://www.edtrust.org).
- 8 Hawaii is excluded from inter-district funding analyses, as is the District of Columbia because each operates a single, state-wide school district.
- 9 This national figure is not the same as the average of each state's funding gap. Rather, it is the difference between the aggregate cost-adjusted per-student funding level in the districts among all states with the highest proportion of low-income students compared to the per-student funding in the districts with the lowest proportion of low-income students across all the states.
- 10 Race and poverty are often highly correlated, which is why many of the states with the largest poverty gaps also have similar gaps for minority students. However, this isn't always the case. High-poverty school districts in Washington state, for example, receive slightly more in state/local funding (\$196 per-student), but high-minority districts get \$87 less per-student than low-minority districts. In some states, the minority funding gap is much bigger – up to three times bigger – than the poverty funding gap.
- 11 This means, for example, that if a state provides districts with \$10,000 per non-low-income student, equity demands that the state provide at least \$14,000 per low-income student.
- 12 One of the criteria for states to receive Title I "Incentive Grants" under No Child Left Behind is whether states have distributed money "evenly." The definition of evenly includes a 40 percent differential for low-income children. *No Child Left Behind Act*, Section 1125(A), Education Finance Incentive Grant Program. Other studies also have used this 40 percent adjustment. See for example, *Inequalities in Public School District Revenues*, U.S. Department of Education, National Center for Education Statistics, 1998; *School Finance: Per Pupil Differences between Selected Inner City and Suburban Schools Varied by Metropolitan Area*, U.S. General Accounting Office, 2002.
- 13 Hunter, Molly A., *Maryland Enacts Modern, Standards-Based Education Finance System: Reforms Based on "Adequacy" Cost Study*, National Access Network. See [http://www.schoolfunding.info/resource\\_center/MDbrief.php3](http://www.schoolfunding.info/resource_center/MDbrief.php3).
- 14 For an analysis of Kentucky's progress, see *Gaining Ground: Hard Work and High Expectations for Kentucky's Schools*, The Prichard Committee for Academic Excellence, 1999. <http://www.prichardcommittee.org/pubs/ggground.pdf>. For an analysis of Massachusetts's progress, see "Staying the Course," *Education Week*, January 5, 2006 at <http://www.edweek.org/rc/articles/2004/10/15/qc-archive.html>.
- 15 Together with Kevin Carey, I plan to quantify how inequities from different levels of government add up for individual schools and their students in a forthcoming study.
- 16 Roza, Marguerite, and Hill, Paul, *How Within-District Spending Inequities Help Some Schools to Fail*, Chapter from the 2004 Brookings Institute Papers on Education Policy (2004). <http://www.crpe.org/pubs/pdf/InequitiesRozaHillchapter.pdf>
- 17 Roza, Guin, and Davis (forthcoming). *What is the sum of the parts?*, Center on Reinventing Public Education.
- 18 Rose, Heather et al., *School Resources and Academic Standards in California: Lessons from the Schoolhouse*, Public Policy Institute of California, 2006. [http://www.ppic.org/content/pubs/report/R\\_106HRR.pdf](http://www.ppic.org/content/pubs/report/R_106HRR.pdf)
- 19 John Myers, "Some more equal than others." *Catalyst-Chicago*, 2005.
- 20 Roza, Guin, and Davis (forthcoming).
- 21 For a discussion of weighted student funding, including several case studies of districts that are implementing this policy, see *Fund the Child: Tackling Inequity and Antiquity in School Finance*, the Fordham Foundation, June, 2006, available online at: <http://www.edexcellence.net/fundthechild/FundtheChild062706.pdf>.

---

© The Education Trust, 2006

Data Analysis by Eli Pristoop

### About the Education Trust



The Education Trust, Inc. was created to promote high academic achievement for all students, at all levels – pre-kindergarten through college. While we know that all schools and colleges could better serve their students, our work focuses on the schools and colleges most often left behind in plans to improve education: those serving African-American, Latino, Native American and low-income students.

The Education Trust works side-by-side with policymakers, parents, education professionals, community and business leaders—in cities and towns across the country—who are trying to transform their schools and colleges into institutions that genuinely serve all students. We also bring lessons learned in local communities back to Washington to help inform national policy debates.

202-293-1217 • 1250 H Street, NW • Suite 700 • Washington, DC 20005 • [www.edtrust.org](http://www.edtrust.org)

### **Poverty & Minority Level Determination Procedures:**

1. Upon request for the poverty level data, the Division of Educator Quality & Diversity staff will request the current F&R lunch data from the Office of District Support Services.
2. The data will be sorted based on the percent F & R lunch and minority student population data.
3. The total number of schools will be divided by 4 to determine the quartiles. The lowest percentages quartile will be low poverty and low minority, the two middle quartiles will be mid poverty and minority, and the highest percentages quartile will be high poverty and minority.
4. At the low-midpoint the cutoff for low poverty and minority will be determined based on the F&R lunch percentage so that where the majority of the schools with that percentage are sorted so shall all the schools with that percentage. The same procedure shall determine the cutoff for the mid-high point. If there is no majority, the schools will be placed in the higher poverty level.
5. The poverty and minority levels will be approved by the DEQD Director and the OLSI Associate Commissioner.
6. Once approved the poverty and minority level data will be sent to the appropriate entity.

# Using Teacher Compensation to Support Differentiated Teacher Roles and Responsibilities

## Executive Summary

J dnt bj x0 sd` bgdqbnl odnr` smrxr sll +` r g` ud sgrnd hmnsqdqr s` sdr+g` r bnl d t mcdq r bqt smx hmcpbdnsxd` q v lsg sgd hmcpct bsmneonr r lkd` kcdm studr sn sgd r hrf kd,r` k q r bgdct kd- hm` mdcnsn qd` bg bnm dnt r nmv` xr sn h` oqud J dnt bj x0 rxsdl +` f qnt o adf` ml ddsnf hml` nt` q 1//6 sn chr bt rr nosnm- F qnt o o` qdnt` nr hmbk cdc qdqr dnt studr nesgd J dnt bj x Dct b` smmOqdr r hm kRS` nc` q r An` q+J dnt bj x @ r nbh smmneRbggnk Rt oddmndmns+J dnt bj x Bg` l adqneBnl l dcd+J dnt bj x Cdo` q dntneDct b` smm J dnt bj x Dct b` smm@ r nbh smm+J dnt bj x Dct b` smmB` almds` nc J dnt bj x RbggnkAn` q r @ r nbh smm

Sgd f qnt o0 chr bt rr hmnr` ebt r dc nmv` xr sn adsdqt r d sd` bgdqbnl odnr` smm sn h` oqud sd` bgdqpt` kx ax qbnf ntyhrf chedqnsi sdc sd` bgdqqr` nc q r onnr hmbkdr- Oqonr` k q r t kmf eqnl sgd chr bt rr hmnr` qd` l hst qd ner s` sd,kludk hmbk studr` nc hmnu` smm sgd` sv nt lc mdcc d` qdqdudknl dnt` nc h` okl dnt smm` sgd chr bt r kdukd F qnt o l dl adq qbnf ntyd sgd` sgd oqonr` k` r gnt lc ad v` kdx chr bt rr dc ax r s` j dgnkdq` nc l` x qdpt hml` nchb` smm

Sgd oqonr` k` nc sgdtoquhr hmnr` ebt r nment q r ds nechedqnsi sdc qldr` nc q r onnr hmbkdr sgd` sgd f qnt o adkudr r gnt lc ad rt oonqdc ax bg` nf dr hmnsd bnl odnr` smmrxr sll 9

0- Rbggnkkludksd` bgdqld` cdq

@cdmns smnesd` bgdqld` cdqqr

Rs sd d` nchf` eqr` k q` cc,nndr` nc` kmf dqv nq` xd` qdqsd` bgdqld` cdq

Chr sdsedw hmbk hmrdkbsnf` sd` bgdqld` cdq

Rs sd,drs` akrgdc odqnd`` nbd bqsdc` nq` ooqu` knechr sdsedr h` ndc bqsdc` eq sd` bgdqld` cdq

1- Gfi g,pt` kx sd` bgdq v nq hrf v lsg gfi g,mdcc rbggnk` nc r st cdns

Cdudknl dnt` nc d` nchf` ne` oqf q l` nesd` bgdqo` x hmbk studr` nc

qdpt hml` dnt` sgd` srbggnk h` oqud sd` bghrf` nc kd` q r hrf bnmclsmm

Chr sdsedr h` ndc bqsdc` sgd` sl dds` a` r h` r s` sd,drs` akrgdc bqsdc` qdpt hml` sn

qdbhd r s` sd d` nchf` : bqsdc` v nt lc hmbk cd` bnl l` h` dnt sn h` oquhrf v nq hrf

bnmclsmm +bnt okmf` o` x hmbk studr v lsg nsqdqr sgd` sdr h` oqud odqnd`` nbd+

pt` kx neoqf q l` cdr h` m` nc bnl l` h` dnt sn du` k` smm

2- Gfi gk pt` kdc sd` bgdq hmr t aidbsrgns` f d` qd` r

Cdo` q dntneDct b` smm dnt studr r gns` f d` qd` r

Sd` bgdq hmbk studr sgd` smmbk cd qd h` at q dl dnt eqbnr snebnt q dv nq` nc nsqdq

sgd` hmbk sn` bghud bqsdc` smm hmr gns` f d` qd`` nc r` k q r t oold dnt

bnmclsmm kmnsd` bgdq 0` qdnt` smm hm` ooqudc oqdr r hmni kcdudknl dnt

oqf q l` r

3- Sd` bgdq v lsg gfi g kludk nelmr sgd` bsmi kdvodq r d

Qdr sgd` bst q r sgd` sgd` chsmi kr` k q r bgdct kd sn h` h` sgd` t r d net ntyd q kx bqdchr

eqo` x hmbk` r dr sn sgrnd qldu` nsn sd` bgdq 0` qd` nedl okxl dnt sn at h` nm

sgd` Bnmclsmm hrf` Dct b` smm Nosmns hmbk` r d sgd` nt l` adqneoqdr r hmni k

cdudknl dnt oqf q l` r sgd` sv nt lc bnt nsnv` q r` k q r hmbk` r dr : sn qbnf ntyd

hmbk` r dc kludk nedwodq r d r odh` kx qd k sdc sn hmr sgd` bsmi

@u` nbdl dms`sgqnt f g sgd`ndv` rxsdl` vnt lc` qdrt lshmr t ar s` nsh ko` x` hmbq` r dr  
hmsgd q` nf d ne6,0/` odqpdms`nq#3+//` ,#4+//`  
Bt` qpdns`sd` bgdq` vnt lc` ad` Q`q` mce` sgdqdc` Q`msn` sgd`ndv` rxsdl`

Qdbnf` nry`hmf` sg` ssa` bgdq` at` hc` dwodq`rd` hmsgdqv` `xr` adxnnc` enq` `koq`edr` r`hmi` k`  
cdudk`nol` dms`+sgd` f` qnt` o` bnmr` hcdqdc` oqonr` hmf` sgd` cdudk`nol` dms`ne` r` s` sdv` hcd` odq`nd` `nbd`  
` rrdrr`l` dms` rxsdl` - Gnv` dudq`ct` d` sn` sgd` sh` d` `nc` qdrt` nt` qdr` sg` sv` nt` lc` qdpt` hcd`+sgd` f` qnt` o`  
bgnrd` hmr`sd` `c` sn` qdbnl` l` dnc` sg` sgd` S` j` d` Nrd` oq`bdr`r` nesgd` M` shmi` kAn` q` enq`  
Oq`edr` r`hmi` kSd` bghmf` R` s` nc` q`r` ad` t` rdc` `r` sgd` a` r` hr` enq` rrdrr` hmf` `nc` qdv` `q` hmf`  
hmr` sq` bshmi` kdwodq`rd`-

Sgd` f` qnt` o` `k` n` ent` nc` sg` ssg`qd` aq` cdq`hr`rt` dr` g` ud` `mhi` o` bshmi` ssg` bshmf` +q`ls` hmf` +` nc`  
l` nsh` shmf` pt` `k`x` sd` bgdq`- Sgnrd` hr`rt` dr`+` nc` sgd` f` qnt` o` Q` qdbnl` l` dnc` shmi` +hmbk` cd9`

- 0- V` nq` hmf` bnmr` shmi` +hmbk` chmf` oq`mbto` krt` oonq`+r` s` cdms`chr` bto`k`nd`+` nc` sd` bgdq`  
hmbk` dntd` nmr` bgnnk`kdudk`c`bhr` hmi` `j` hmf`  
@bnmr` shmf` r` t` qdx` nesd` bgdq` Q`d`q`dos` shmi` nev` nq` hmf` bnmr` shmi`  
Qdf` t` k` q`r` s` sd` sq` bj` hmf` nesd` bgdq`st` q`mudq`  
Oq`mbto` k` bbnt` n` s` al`k`x` enqv` nq` hmf` bnmr` shmi`

- 1- Sd` bgdq`du` k` `shmi` ncdk`  
Cdudk`nol` dms`ne` r` s` sdv` hcd` sd` bgdq`du` k` `shmi` ncdk` r` `dq`r` s`do` snv` `q` `r`  
rxsdl` sg` sr`sq` sdf` h` k`x` cdudk`nor` sgd` onsd`nsh` kneJ` dnt` bj` x` det` b` snq`

- 2- @sq` bshmf` `nc` q`ls` hmf` l` nq` nesgd` r` s` sd` Q` Q`dr` s` nc` ad`f` g`sd`r` s` Q`n` sd` bghmf`  
Bg` nf` d` sgd` o` x` r` sq` bst` qd` sn` hmbq` r` d` o` x` e` r` sdq`  
L` `q` dshmf` r` sq` sdf` h`dr` sn` `sg` bsl` nq` dwodq`nd`dc` oq`edr` r` hmi` k` sn` sd` bghmf`

Sgd` f` qnt` o` `k` n` r`sq`nf` k` `cunb` `sd`c` `mdu` k` `shmi` rxsdl` sn` rrdrr` sgd` d`e`bsned` bg` og` r` d` ne`  
sgd` qdbnl` l` dnc`dc` bg` nf` dr`- Sghr` du` k` `shmi` vnt` lc` f` `t` f` d` h` oldl` dms` shmi`+r` s` j` d`gnk`cdq`q` bshmi`+  
sq`pnc` hmt` shnl` dr` rt` bg` `r` sd` bgdq`q`sd`nshmi` nc` r` s` cdms` bgl`dudl` dms`+Q` nshmi` dnc`dc`  
bnmr` dpt` dntd`r` Q` nc` oq`f` q` l` bnr` s`-



## Introduction

J dnrst bj x0 sd' bgdqbnl odmr` snmr xr sdl g` r bnl d t ncdqr bqt smx hmcpbdmrsxd` q v hsg sgd hmcpct bsnmneonrr hald` ksqni studr sn sgd r hmf kd,r` k q r bgdct kd- Sgd r d r f f dr snmr g` ud hmkt cdc sgnrd b` kmf enq` m` ooqn` bg+rnl dsh dr k adkc` r chedqmsh sdc o` x+sg` soqule dr u` qdc bnl odmr` snmkdudk a` rdc nmrt bg e bsnq` r r t aidbr s` t f g+r d cdmr odqnd` nbd+` mc dwo` ncdc sd' bgdqsq hmrf` mc qronmr hald-`

Rt bg cdudknol dnrst` qd adbnl hmf l nqd bnl l nm` bqr r sgd bnt nsg hmcp r onmr d sn` f qv hmf bnmr dnr t r sg` ssa' bgdqo` x r xr sdl r ncdc sn ad bg` nf dc+` bbnq hmf sn m` snm k` bnt nst- Sgd bg` kdnd d kdr hmehmf` adssdqv` x sn bnl odmr` sd dct b` snq+` r hst` snmqledbsdc hmssgd bnl l dnrst ne` onktxl` j dqhm Cdmudq+r hsd ne` odqnd` nbd,a` rdc o` x ok m+s Education Week9 d` hmssg` sodqnc nesh d` ssdqsgd nlc o` q cfl l g` r f nrd` mc adenq sgd nrdv o` q cfl l g` r sm kx dunkudc-0

Hn` mdeqsn qd' bg bnmr dnr t r nmqbnl l dnrst` snmr sn h` oqud J dnrst bj x0 sd' bgdq bnl odmr` snmr xr sdl +` f qnt o qoqdr dnrstf u` qnt r dct b` snmhmsqdr s` adf` ml ddsnf hm l` nt` q 1//6 sn chrbt rr nosnmr` mc` ksqni studr-

Sgnrd o` qhlo` snmf hmssgd f qnt o+v g hbg v` r bnmudrdc ax sgd Oqlog` q Bnl l hssd enq@` cdl h` Dwbdkdrbd+hmkt cdc qoqdr dnrst studr nesgd9

- Dct b` snm Oqndr r hm kRS` mc` q r An` q
- J dnrst bj x @` r nbh snmne RbggnkRt odqmrdndnrst
- J dnrst bj x Bg` l adqne Bnl l dqp
- J dnrst bj x Cdo` q dnrst ne Dct b` snm
- J dnrst bj x Dct b` snm@` r nbh snm
- J dnrst bj x Dct b` snm B` ahnd
- J dnrst bj x RbggnkAn` q r @` r nbh snm

Sgd f qnt o v` r` r r hsd c hmf v nq ax Cq @` r nmx L k` mv r j h` q r d` qgdqv hsg sgd Bnmr nqf l enq Onkx Qdr d` qg hm Dct b` snm` ssgd T nrdq h` ne V h` bnmr hmj L` ch` nm` mc sgd` t sgnqnesgr qdnc



Sgd f qnt o adkudr sg` s J dnrst bj x0 bnl odmr` snmr xr sdl r gnt kc ad bg` nf dc sn rt oonq hmsh studr sn h` oqud sd' bgdqpt` kx ax qbnf nymf chedqmsh sdc sd' bgdqndr` mc qronmr hald- Sgd f qnt o0 chrbt rr hmrbt rdc nmv` xr sn adssdq r d sd' bgdqbnl odmr` snm sn dng` nbd` mc rt oonq sgr l nudl dnrst v` q chedqmsh snm Sgd oqonr` koqdr dnrst gdq h` ansq` uhr hm enq r t oonq hmf chedqmsh sdc qndr` mc qronmr hald` mc` r dsnebnrbqsd oqonr` k` sg` sv d adkud v nt kc qd` kyd sgd uhr hmrbt

V d qbnf nymd sg` ssgd rodbro oqonr` k v h` ncdc sn ad v kcdk chrbt r rdc ax sgd l` mx rs` j dgnkdq hmssgd dct b` snmr xr sdl` mc l` x ncdc sn ad l ncdc enq qd` r nmr nebns+` ahx sn ad h` okl dnrst+` mc` bbdos` ahx- hno` qhlo` k q h` h` h` onq nsg` sdct b` snq sgd l rdkudr ad hmunkudc hmok mtrmf sgr oqf q l` sansg sgd rs` sd` mc chrsqbskudk- Sgd rodbro oqonr` k` qd` l hst` qd ner s` sd, kdudk hmsh studr` mc hmnu` snmr sg` sv nt kc ncdc e qgdqcdudknol dnrst` mc h` okl dnrst snm` ssgd chrsqbskudk V ghid v d g` ud enbt rdc nmbnl odmr` snmhmsq studr +v d` k n qd` kyd sg` sv nq hmf bnmr snmr hmnt qr bggnk` mc chrsqbs` qd h` onq nsh` ssg bsnf +qds hmrf +` mc l nst` snmf pt` kx sd' bgdq- V d` ccqdr sgr k sdqhmssgd oqonr` k

Sgd oqonr` kenbt rdr nment qrdz neclredqndi sdc sd` bgdqqldr `nc qdr onmr hahkdr sg` ssgd f qnt o adkludr rgnt lc ad rt oonqdc ax bg` nf dr hmsgd dct b` snqbnl odmr` snmr xr sdl 9

0- Rbggnkkludksd` bgdqld` cdq rt bg` r ndv sd` bgdql dnraq +hmrsq bsnm kbn` bgdr +` mc rt aidbsk` c sd` bgdq

1- Gfif g,pt` kss sd` bgdq v nq hmf v hsg gfif g,mdc r bggnk `nc rst cdms

2- Gfif gkx pt` kss sd` bgdq hmrgnqs f d rt aidbs

3- Sd` bgdq v hsg gfif g kludk nelmr sq bsnm kdwodqrd

Rodbleb oqonr` k` qd l` cd sn` ccqrr d` bg` qd` - @` hmrsgd rodbleb` qd` onhmsnecco` qd` qd` enq` qdqchrt r r hmax` ksgd rs j dgnkcdq hmJ dnst bj xO dct b` snmr xr sdl - Sgd f qnt o qdbnf ntydr sgd mdcc sn hmunkud dct b` sq hmcdrfi nhrf sgd cds k` `nc h okld dnshf sgd oqbdct qdr ne` mx bnl odmr` snmhmnu` snmr `nc sgd mdcc sn a` k rbd sgd qldr nesgd rs sd` `nc knb` kchr sqbs -

Hn` cclshmsn sgd rodbleb oqonr` k +sgd f qnt o dnraq dr r hwa` r h f t h hmf oqmbokdr enqsgd cdrfi mne` mx sd` bgdqo` x hmnu` snmr

0- **Sustainability**- Sgd rs sd l` trsad` akd sn l` hms hmrs emi r bh k` nc sdbgnrb` krt oonqenq sd` bgdqbnl odmr` snmhmnu` snmr nudqsgd knf q` m Mnsnrkx cn t m r s` hmdc oqf q l` r v` r sd l` nndx` nc dnraq at shi okld dnshf +` nc sgd mchr bnsnt hmf +hmnu` snmr qdct bdr sgd bqdchaks need` qd o` x bg` nf d oqonr` k` -

1- **Input and buy-in from those affected**- Sd` bgdq `nc` cl hmrsq sq mdcc sn ad hmunkudc hm sgd cdrfi mnehmnu` snmr - Mnsnrkx` qd bg` nf dr l` cd v hsg sgd hmot skj dks sn ad` bbdosdc l` nq qd` chx +sgnr d hmunkudc g` ud h onq` nshmf gsr sn neeq` ant sgnv rodbleb oqonr` k` qd kj dks sn v nq -

2- **Balancing local flexibility and statewide uniformity**- Sgd f qnt o g` c l` `nc chr bt r r hmnr `ant sr s` sd` `nc chr sqbsqldr hmcdrfi nhrf `nc h okld dnshf bnl odmr` snmhmnu` snmr - V d` f qdcd sg` sv ghid sgd rs sd` mdcc sn r dsagd a` r h e j l` dv nq `nc oquled qdr nt qdr sg` sv nt lc ad bnr sk enqchr sqbs sn ct okb` sd` d-f -+sd` bgdq` r dr r l` dnsl ncdk +r d cdmsdr snrf (+sgdq r gnt lc ad knb` knoshmr sn` bbnl okrg sgd rs sd` f n` k enqbnl odmr` snmhmnu` snmr @r n+ chr sqbs rgnt lc msg` ud sn chr bnsnt d rt bdr r d` kknb` khrsh studr -

3- **Teacher compensation initiatives to support differentiated roles and responsibilities should not be implemented and funded at the expense of maintaining a competitive base salary for teachers.**

4- **Teacher compensation changes need to be systematically evaluated**- Mnsnrkx hr du` k` `snm h onq` nsn dmr t qd sg` ssgd `cclshmi kqdr nt qdr J dnst bj x hmudr sr` qdr t lsh m dct b` snmi k h oqudl dnst +hs v h k` k n g d k o sn h oqud oqf q l` cdrfi m` nc nodq snmr Du` k` `snm rgnt lc enbt r ansy nmsgd pt` kss nelh okld dnst snm` nc nmv gdsdqoqf q l` r` qd` bst` kx `ccqrr hmf sgd oqakd r sgdv d qd cdrfi ndc sn` ccqrr -

5- Administrator compensation should also be examined and modernized+r hmbd  
 chedqnsd` smmnesd` bgdqqldr `nc qronmr hmbd` k`n` eelber `cl hmbd` sq`nqqldr- hmbd` cclsmm+  
 o` x hmbd` smm` enqsd` bgdq ` qd` hmbd` sn ad ad`sdq` bbdosdc `nc hmbd` okdl` dmsdc` hmbd` bggnk  
 `cl` hmbd` sq`nq ` qd` hmbd` cdc` hmbd` bg` nf` d-

**Focus 1: School-level Teacher Leaders**

Sgdq` hmbd` f` qv` hmbd` qdbnf` nmbd` qnt` nc` sgd` bnt` nmbd` sq`` sdrng` nmbd` hmbd` sd` bgdq` Omr` sq` bsmm` kb` o` bmbd`  
 qdpt` hmbd` knrf` ,sdq` +ina,dl` adccdc+nmbd` hmbd` oqedr` r`hmbd` kcdudknol` dms` Sd` bgdqld` cdq` ` qd` nmbd`  
 j` dx` ok` xdq` hmbd` hmbd` xod` neoqedr` r`hmbd` kcdudknol` dms`+e` nmbd` hmbd` hmbd` u` qd`x` neqldr` rt` bg` `r`  
 nmbd` sd` bgdqld` dms`q` +oddq` qd`v` dq` +hmbd` sq` bsmm` kb`` bgdr` +nmbd` hmbd` oqedr` r`hmbd` kcdudknol` dms`  
 e` bmbd` sq` +` nc` l` `sg` nqr` bmbd` kd` c` sd` bgdq- Sgd` t` r` d` nmbd` bgdqld` cdq` r` gnt` k` `k`n` ad`  
 bmbd` hmbd` hmbd` Cdo` qd` dms`neDct` b` smm` hmbd` hmbd` dms`moK` nr` enqr` bggnk` hmbd`dc` ne`  
 ` r`r`r` s` nmbd`- Sn` rt` oonq` sgd` t` r` d` nept`` hmbd` `nc` l` nsu` sdc` sd` bgdqld` cdq` hmbd` dms` bj` x` r` bggnk` +  
 sgd` r` s` sd` r` gnt` k` cd` hmbd` ` r`dsnesd` bgdqld` cdqqldr` `nc` oqulr` d` sm` nmbd` krt` oonq` enq` ch`r` s` b`  
 bggnr` hmbd` sn` hmbd` okdl` dms` sgd` r` d` qldr`-

Nt` qrod` bmbd` oqonr` `k`n` `sq` b` `nc` qd` s` hmbd` g` pt` `k`n` sd` bgdqld` cdq` hmbd` bg` r` bggnkv` nt` k`  
 hmbd` cd` sgd` en` kv` hmbd` oqulr` hmbd` 9

0- Cde` smm`ne` r` s` nc` q` r`dsnesd` bgdqld` cdqqldr` cdudknodc` ax` `bnl` l` hmbd` sq`` smmbd` cdr`  
 qdopdr` dms` s`udr` nesgd` Dct` b` smm`B`` ahmbd`+sgd` Dct` b` smm`Oqedr` r`hmbd` kR`S` nc` q`r` An` q`+sgd`  
 J` dms` bj` x` Cdo` qd` dms`neDct` b` smm`+` nc` `eelsdc` dct` b` smm`bnm` s` s` dmbd`- Sgd` bnl` l` hmbd`  
 v` nt` k` cdudknol` `ina` cdr` b`q` smm`enqd` bg` kd` cdqqldr` `nc` v` nt` k` v` nq` v` hmbd` sgd` R`S` nc` q`r` An` q`  
 sn` k` dms` sgd` pt` `k`n` smm` enqd` bg`- Enqd`w` l` okd`+nmbd` sgnr` d` v` hmbd` Sd` bgdqld` cdq`  
 dms`nq` dl` dms` l` hmbd` gsad` d` k` hmbd` sn` ad` r`dkb`sd` enqsd` bgdqld` cdqqldr`- A` r`dc` nmbd`  
 pt` `k`n` smm` cdudknodc`+sgd` bnl` l` hmbd` v` nt` k` dr` s` ak`r`g` ` l` ncdkr` d` k` bsmm`oq`bdr` enqsd` bgdq`  
 kd` cdqqldr` sn` ad` t` r` dc` ax` ch`r` s` b`-

1- R` s` sd` e` nmbd` enqr` k` q` `cc, nmbd` `nc` `knf` dqv` nq` xd` q`enqsd` bgdq` e` hmbd` dr` s` ak`r`gdc`  
 sd` bgdqld` cdqqldr`- Sgd` `cc, nm` l` nt` nmbd` r` gnt` k` ad` hmbd` #1`-4` / / , #2`-4` / /` q` nf` d`+` nc` sgdq`  
 bnt` k` ad` sv` n` kdudk` sn` qdbnf` nmbd` chedqnsd` qronmr` hmbd` nq`sgd` bnl` okd`w`x` nech` hmbd` dms` kd` cdq`  
 qldr`- Kd` cdq` v` nt` k` `k`n` ad` e` nmbd` sn` v` nq` `knf` dqxd` q` ` l` hmbd` t` l` neeud` c` xr` `nc` `  
 l` `whi` t` l` ne0/` c` xr` +cdod` nmbd` nmbd` qld` (- Sgd` r` d` ccl` smm` k` `xr` v` nt` k` ad` t` r` dc` sn` bqd` sd`  
 oqedr` r`hmbd` kcdudknol` dms`noonq` nmbd` enqnsd` qsd` bgdq` +bt` qd` k` l` cdudknol` dms`  
 oqedr` r`hmbd` kcdudknol` dms`nesgd` kd` cdq` sgd` r`dkudr` +` nc` .nq` m` k`yl` hmbd` r` s` cdms` `r`dr` l` dms`  
 qd` t` k` +cdod` nmbd` nmbd` kd` cdqqldr`-

2- Christs edwal hix hmr dkbdrf sgd sd` bgdqld` cdqqlk` sg` sv nt lc` cc sgd l` nr su` kt d sn d` bg r bgnnk Et nchrf enqsgd` cc, nm` mc sgd dwsq` c` xr v nt lc ad oquledc hmoqonqnmns sgd nt l` adqnesd` bgdq` hmsgd christs' d-f -+nmr kd` cdqodq2/ sd` bgdq (+` mc christs bnt lc cdbled gnv sn` oonqnmkd` cdq sn r bgnnk` mc d` nbsnmr - Christs v nt lc g` ud sn` f qld+gnv dudq+sn oquled sgd dpt hu` kdnsne` skd` rsnmd gnt qodqc` x neqld` rd shi` d sn odqnd` kd` cdq` bshuadr - Sgd l` whi` t l` qld` rd shi` d v nt lc ad nmrd, g` lec` x+sn dmr t qd sd` bgdqld` cdq` cte mnskr d sn bg v hsg sgd bk rr qnl - Qld` rd shi` d v nt lc ad d` mdc ax sgd christs+sn r gnv sgd christs bnl l` h dmsn tr hrf sd` bgdqld` cdq-

3- Sgd rs` sd v nt lc drs` akrg odqnd` ` nbd bqsqdi` enqsd` bgdqld` cdq` +nq` oqqud christs cdr fi mdc bqsqdi` - Christs v nt lc ad qdpt hqpc sn du` k` ` sd kd` cdqodqnd` ` nbd` nmt` kx- Kd` cdq` msl` ddsnrf` odqnd` ` nbd dwodbs` smnr v nt lc kr d sgd` cc, nm` Nsgdq` hrd+sgd` cc, nmv nt lc ad o` lc` r` knrf` ` r` ` sd` bgdqld` kdc sgd qld-

**Focus 2: High Quality Teachers Working with High Need Schools and Students**

Bnmr hrdmsv hsg bt qdmsqrd` dpg` hcdmshrf` sd` bgdq` ` r sgd l` nr shi` onqs` nsr bgnnk` kudk hmr d nbd nmr st` cdmskd`` qnrf` +v d` adklud` sg` sJ dms` bj x` mddr sn cn l` nq` sn dmbnt` q` f` d` sgd l` nr srj` hkd` sd` bgdq` sn v nq` hmsgd` r bgnnk` ` mc v` hsg sgd` r st` cdns` sg` smddc` sgd l` nr shmncpdq` sn enr sdq dpt` hix` ` mc bkrd` f` ` or hmr st` cdns`` bgtudl` dms` Sgr hmbk` cdr knv` ,` bgtulmf` +gfi` g, onudq` r bgnnk` ` r v` dk` ` r st` cdns` v gn` g` ud sgd l` nr sch` hix` kd`` qnrf` hmgfi` gdqodqnd` hrf` + adsdqner bgnnk` - Gfi` g, mdc` r bgnnk` g` ud rt ar s` nsh` koqonqnmr` ner st` cdns`` hix` dx` sn ad`` sqrj` ne` b` cdl` h` e` h` qd- Mhsnrk` ` qd` sgd r` r bgnnk` l` nr shmndc` nef nnc` sd` bgdq` +at` sgd` r bgnnk` ` qd l` nq` nesmodqdhudc` ` r` g` ulmf` l` nq` ch` hix` sv nq` hrf` bnmr` smnr` ` mc sgd` r st` cdns` ` qd` odqdhudc` ` r` ad hrf` l` nq` ch` hix` l` sn sd` bg+ l` ` j` hrf` hsg` qdqsn` ` sq` bs` sgd` adr` sd` bgdq-

Qdr d` dpg` ` mc sgd` hix` hcd` dwodq` nbd v` hsg` oqf` q` l` r` enq`` sq` bsnrf` sd` bgdq` sn rt` bg` r bgnnk` ` mc r st` cdns`` rt` f` f` dr` sgd` sansg` em` nbi` kmbdmsudr` ` mc` hix` oqud l` dms` hmv` nq` hrf` ` mc` kd`` qnrf` bnmr` smnr` ` qd` mddc` enqrt` bddr - Sgd` qd` enq` +sgd` f` qnt` o` oqonr` dr` sg` sJ` dms` bj` x` cdudkno` ` mc d` mc` ` oqf` q` l` neo` x` hmbdmsudr` enqsd` bgdq` v` hix` sn v` nq` v` hsg` gfi` g, mdc` r st` cdns` ` mc r bgnnk` sg` shmbk` cdr` ` qdpt` hqdl` dms` sg` srt` bg` r bgnnk` hix` oqud` sd` bghrf` ` mc` kd`` qnrf` bnmr` smnr` ` mc` bnt` old` sgd` hmbdmsud` v` hsg` ` r` x` sdl` ` sh` r` sq` sdf` x` sn` hix` oqud` r st` cdns`` bgtudl` dms`

Sgd` qd` ` qd l` ` mx` v` ` xr` sn` cdemrd` ` gfi` g, mdc` r bgnnk` Sgd` f` qnt` o` qd` bnl l` dms` cdemrnf` gfi` g` mdc` hmsd` r` negfi` g` r st` cdns` onudq` ` mc` knv` ` b` cdl` h` ` bgtudl` dms` Ent` qrbdm` qnr` sg` srgnv` gnv` gfi` g` mdc` l` fi` gsad` cdemrdc` ` qd` cdr` bqdac` hmsgd` @odnchv-

Sn l` ` hms` hmsgd` a` k` nbd` adv` ddmknb`` kedwal` hix` ` mc` rs` sd` t` nrd` hix` +sgd` f` qnt` o` oqonr` dr` sg` s` christs` cdr` fi` mrod` hix` hmbdmsudr` sg` s+sn` qd` bhdud` rs` sd` d` nchrf` +l` t` r` sl` dds` a` r` hix` cdr` fi` mbdq` d` rdsax` sgd` rs` sd` - Christs` v` hsg` r bgnnk` l` ddsnrf` sgd` cdemrnf` negfi` g` mdc` v` nt` lc` ` ook` enq` d` nchrf` +` mc` sgd` Cdo` qd` dms` neDct` b` smv` nt` lc` du` k` ` ` sd` ` mc` ` oqqud` christs` oqonr` ` k` a` r` dc` nmgnv` v` dks` sgd` oqonr` ` k` l` dssgd` ent` qbqsqdi` cdr` bqdac` adknv` -

Sgd` dqr` sbqsqdnmv` nt` lc` ad` sgd` christs` bnl l` hix` dms` n` r` drr` hrf` ` mc` hix` oquhlf` sd` bgdq` v` nq` hrf` bnmr` smnr` - Sgd` oqonr` mdc` q` nbd` neqrd` dpg` rt` f` f` dr` s` sg` sem` nbi` kmbdmsudr` ` knrd` v` hix` mns`` sq` bs` ` mc` qis` hmdrnt` f` g` gfi` g` pt` ` hix` sd` bgdq` sn rt` ar` s` nsh` hix` hix` oqud` ` bgtudl` dms` hmgfi` g, mdc` r bgnnk` - Sgt` r` ` rt` bddr` d` koqf` q` l` l` t` r` sdrnt` qd` sg` sonnqv` nq` hrf` bnmr` smnr` ` qd` mns` nchrf` sgd` ` sq` bsnmnesgd` o` x` hmbdmsudr` - V` nq` hrf` bnmr` smnr` sg` s` qd` hix` onqs` nsn` sd` bgdq` hmbk` cd` oqmbto`` kld` cdq` gto` +` cdpt` ` bx` nel` ` sdq` k` ` mc` qdr` nt` qdr` +ok` nchrf` shi` d+nmmsd` bghrf`

ct sdr+`nc hnd dmbd nudqrbgnnkknkldr - Rbgnnk v nt lc g`ud sn bnl l lsn`m`rrdrri dmsne  
v nq hmf bnrcshmr`nc`ok msn hi oqud cdehdmbdr-

Sgd rdbnrc bsdqnmv nt lc ad v hkmf ndr r sn bnt old sgd o`x hmbdmsud v hsg nsgdqrsq sdf ndr sn  
hi oqud odqnd`nbd- lsh hi onq msn qbnf ntyd sg`s`sq bsmf pt`ksx sd`bgdq`knd v hkmms  
st qn`qnt nc rsc f f kmf r bgnnk - Pt`ksx kd`cdq+`cdpt`sd bt qbt kl l`sdq k`nc qdr nt qdr +  
`nc`ooqndi sd rs ecdudknol dms`ql`kn mdcdc- Chrsjbs v nt lc`kn g`ud sn rgnv gnv sgd  
hmbdmsud dsr hns`bngdqms oqf ql`nehi oqud dms enqsgd glf g,mdc r bgnnk - V gdc  
`ooqndi sd+chrsjbs v nt lc g`ud sn ad v hkmf sn t ncdqj d`rbgnk r sb`t cts`nc`bsnmsgd  
qdr t ks-

Sgd sglrc bsdqnmv nt lc ad pt`ksx neoqf ql`cdr hfm Sgd ghnsq nesd`bgdqbnl odmr`shnm  
hnsi studr rtf f drs`sg`s`onncx cdr hfm mdc oqf ql`hr l nq kj dx sn dmf dncdqsd`bgdq O  
rj dosbrl`sg`msn hi oqud det b`shnm kdpt ks- Chrsjbs v nt lc g`ud sn rgnv`sg`ssgdtoqonr dc  
hmbdmsud oqf ql`hmbk cdc9

rodbled+naidbsud bsdq cdehmf v ghg r bgnnk v nt lc ad dki hald- Sgdr d bnt lc hmbk cd  
sgd r`l`d`e`bnq chr bt rrdc`anud enqs`sd`e`hmf -

rodbled bsdq enqcdsdq hmf v ghg sd`bgdq v nt lc ad dki hald enqsgd hmbdmsudr -  
Sgdr d r gnt lc hmbk cd rldbsmmbd bsdq`sg`sv nt lc`rrt qd`sg`sglf g,pt`ksx sd`bgdq`qd  
adhmf`sq bsd`nc`qps`hmdc-

l`d`nrmf`k hmbdmsud`l`nt nrs - @rx emi nbi hmbdmsudr oqonr dc r gnt lc ad k`q`d  
dmnt fg sn oqud`sd`rs`0/`odqndshmbq`rd hm`sd`bgdq`r`k`q-

hrot sepl`sgnr d`e`bsdc hmsgd cdr hfm moqbdrr -

oqdr r hmi kcdudknol dms`hi`dc`sh oquhmf hmsq bsmm

Sgd ent sq bsdqnmv nt lc ad sgd chrsjbs O hkmf ndr r sn du`k`sd sgd rt bdr r nesgd hmbdmsud  
oqf ql`- V ghg rdudq kchrsjbs`nc`rs`sdr g`ud adf t moqf ql`r nehmbdmsudr enqsd`bgmf hm  
glf g,mdc r bgnnk +sgdc hr bt qdr ks`d`dulc dmbd nesgdqrt bdr r - @rx sdi`sh du`k`shnmne  
sgd oqf ql`hr drr dmsi ksn dmt qd`sg`ssgd oqf ql`hr g`uhmf sgd hmsmdc deesbe Chrsjbs l trs  
sgdqenq bnl l lsn v nq hmf v hsg qdr d`qgdq sn`rrdr oqf ql`hi`o`bsl`d`rt qdr+hmbk chmf  
sd`bgdq`bshmr +bg`nf dr hmu`b`nrx`nc`st`qmudq`sd`hi`oqud dms hmbdmsud`sq`ne  
sd`bgdq`ksx+`nc`hi`o`bs`nms`cdns`bgldudl`dms

Sgd`anud bsdq v nt lc ad`sgdqrodbled ax sgd Cdo`q`dmsne Dct b`shnm+v ghg v nt lc`kn  
rdst o`oqbdrr enqchrsjbs sn qpt drs`hmf`t`nqdsg hr oqf ql`- Chrsjbs v nt lc`cdudko  
oqonr`k`ledms`hmf`sgd glf g`mdc r bgnnk`enqv ghg hmbdmsudr v nt lc ad oqud`nc`rt`al`ls  
e`hmf`qpt drs -

B`qd l trs ad s`j`dm hmf ndr r hmf sglr oqf ql`enq`sq bsmf sgd l nrs r j`kdc sd`bgdq sn sgd  
glf gdr sn ddc`rs`cdns`nc`rbgnnk`msn`rsq`bst`qd`chr hmbdmsud enqglf g odqnd`nbd- @rx  
emi nbi hmbdmsudr`nc`deesbe sn hi oqud v nq hmf`nc`kd`qrmf`bnrcshmr`rgnt lc`bnsmr d  
v gdmsgdr d`rbgnnk`nc`rs`cdns`qd`bg`sgdq`qd`qrmf`f`n`k`- @s`l`hmi`tl`+hmbdmsudr`rgnt lc  
bnsmr d`enq`nt l`adqexd`q`esdq`n`k`qd`qd`bgdc+ans`sn oqud`bnsmr`hmf`hi`odsr`enq  
hi oqud dms`nc`sn`rrt`qd`rs`al`ks`nehi oqud dms

### Focus 3: Highly Qualified Teachers in Subject Shortage Areas

Klj d l nr sr s sdr + J dnr s bj x g` r dwodqndbc odqndc r gncs` f dr nept` kndc sd` bgdq hmrnl d` qd` r + hmbk chrf r bdnbd + sdbgmknf x + l` sgd l` sbr +` mc r odbh kdct b` srm @sgnt f g J dnr s bj x g` r cnrd qk sudk v dlkhndmr t qnf sg` sl nr srt aidbs` qd` s` t f gsax @h gk pt` kndc sd` bgdq` r qdpt hpc ax sgd Edcdq kMn Bglic Kdes Adghnc` bs + hsr kj dx sg` schrsbs g` ud` chst kst d` chrf pt` kndc sd` bgdq hmrnl d` rt aidbs` qd` r` mc` qd` enpdc sn qk nmsd` bgdq v hg kdr r rt aidbs l` sgdqdwodqndc sg` mhr cdr hq akd- Sn hi oqud sgd r gncs` sd` rt ook nesi` bgdq sn sgd rd rt aidbs` qd` r + hmbdnudr rgnt kc ad t rdc sn drbnt q` f d f nnc sd` bgdq v gn` qd` mnsbdqndc hm sgd r gncs` f d` qd` r sn adbnl d bdcndc` mc sn hi oqud sgd bnrnsnj mnv kdcf d` mc rt aidbs` rdbndc` f nf x nesgrnd v gnr d rj hkr nddc t oc` snf -

Hnsqd r gncs` sd` +sgd r s` sd` rgnt kc bnrnsnj` sd` nmoqndc hrf hmbdnudr sg` sv nt kc ansq gdlc hmbd` rd qdndc` mc hi oqud sgd rt ook nesi` bgdq hmr gncs` f d` qd` r - Sgr v hkr sqdpt hq sg` sgd Cdo` qd` dnr neDct b` snmldnr r gncs` f d` qd` r - Nrbd` krsner gncs` f d` qd` r hr kndc + sv n j hmr nelmbdnudr rgnt kc ad t rdc -

0- Qdhi at qdl dnrnsqsgd bnrnsnebt q` dv nq` nqnsqdsq hmrndc` sn` bglud bdcndc` snmhm` r gncs` f d` qd` -

1- @` k` q` rt ookdl dnrnsqsd` bgdq v gn` qd` k` r s` sd` bdcndc` mc v gn` qd` r rfi ndc sn sd` bg hmr` r gncs` f d` qd` + bnrnsnj` knmsgdqo` qd` snmhm` oqud r t l l dcoqndc r hmi k cdudknl dnrnsqf q` l r - Sgd rd qnf q` l r v nt kc ad` hi dc` shi oqundc bnrnsnj` mnv kdcf d` mc odc` f nf h` kbnrnsnj` mnv kdcf d - Sd` bgdq v nt kc` k` n ad o` h` sgdq` h` q` sd` enqsgd c` xr ne o` qd` snm` Sd` bgdq v gn` o` qd` sd` nnd` r t l l dqv nt kc qdbhd #0+// sgd ndc` r bggnkxd` q` Sd` bgdq v gn` o` qd` sd` hmsv n bnrnsnj` stud r t l l dcoqnf q` l r v nt kc qdbhd #1+// enqsgd r bggnkxd` q` sgdqo` qd` snf hnsqd rdbnrnsqf q` l - Sd` bgdq v nt kc qdbhd sgd #1+//` l nt ns` r knf` r sgd x o` qd` sd` hnd` bg bnrnsnj` stud xd` q` mc` r knf` r sgd x` qd` r rfi ndc sn sd` bg hmr` mldnr r gncs` f d` qd` - 'Sn qdbhd sgd t k#1+// +sd` bgdq v nt kc g` ud` g` c` sn g` ud` o` qd` sdc hnsqd oqndc r hmi kcdudknl dnrnsqf q` l ct qnf ansq nesgd odqnsv n xd` q` -

Hnsqd knf` sd` +dnk` q` hrf sgd rt ook nept` kndc sd` bgdq hmrnl d` qd` r + rt bg` r r bdnbd + sdbgmknf x +` mc l` sg + v hkr qdpt hq l` inqbg` nf dr hmbnl odmr` snm + v nq` hrf bnrnsnj` +` mc sd` bgdqoqdo` q` snm` Rhrbd hmbdnudr` knrd v hkrnsaqnf odnold v hg r bdnbd + sdbgmknf x +` mc l` sg j mnv kdcf d` hnsq sgd sd` bghrf` enpdc +sgd r s` sd` rgnt kc` k` n dw` l` hnd` a` qd` q` sn dnrnsq` ne pt` kndc bndc` d` r s` cdnr` hnsq sd` bghrf` mc cdudkno` sq` nr hmoqnf q` l r sn drbnt q` f d` odnold v hg sgd rd rj hkr sn l` nud hnsq sd` bghrf -

## Focus 4: Teachers with High Levels of Instructional Expertise

Sn qpronnē sn qtr hmf mī snmī k`nc r sē sd dwodbsē snmī enqr sē cdns` bgrludl dms+sd` bgdq mddc sn bnrstnt d sn cdudkno sgdtr hmf sē bsmmī krj hkk - Sgd oqrēdr r hmf kcdudkno dms sē shr kī dīk sn g` ud sgd l nr s hī o` bsnm hmf sē bsmmī kdwodqtr d hr bngdqns+r t r sē hndc+kīnj dc v l sē sd` bgdq Ōē hkk oq bsbd+`nc fībt r dc nmbnq oqakl r nesd` bgr hmf `nc kd` qtr hmf . Trnēqē mī sdx+oqrēdr r hmf k cdudkno dms hr nesdmt nrēbt r dc `nc+t nēdqsgd bt qprns` k q r bgdct kd+sd` bgdq ` qd qv` qdc enq` bbt l t k snmf t nēpk sdc `nc l ` q hmf hkk qldu` nēbnkdf d bēpchs q sgdqsg` mēqat hē hmf ` r nkk ancx nedwodqtr d- V ghid sgd bt qprns` k q r bgdct kd` sdl os sn oqrēdr hmbdnstudr enqrj hkk cdudkno dms hmsgd enq` nea` rd o` x hmbq` r dr `k nēd bg` nf dr ( enq` sē hmf cdf qdr `nc bnkdf d bēpchs +sgdq hr mn qdr` d q sē srt oonqē sgd mnsmsē s r hī ok o hmf t o l nēd cdf qdr `nc bēpchs hī oqrēdr hmf sē bsmmī kdwodqtr d nqr sē cdns` bgrludl dms Sn drēbt q f d sgd cdudkno dms nē hmf sē bsmmī kdwodqtr d `nc rt oonqēsgd cdudkno dms nesd` bgdqkd` cdq +v d oqrēdr d enq` s` qtr sē bē qtr nesgd Ōē ndr Ōnesgd sē cīsnmī kr` k q r bgdct kd+`nc +r dbnnc+sn drēbt q f d ` kēdqī stud v` xr sn at hē `nc cdl nmr sē sd hmf sē bsmmī kdwodqtr d `enqdw l` old+t r hmf sgd Mī snmī kAn` q enqOqrēdr r hmf kSd` bgr hmf Rē nc` qtr S` j d Nmē oqrēdr (- Sgd r d oqrēdr `k` qd ` hī dc mnsnkk `shmbq` r hmf sgd hmbdnstud enq` kēsd` bgdq sn cdudkno dwodqtr d+at s` k n sn qdr hmf ntyd sgd kī dīk nnc sē sē bgdq v gn g` ud ` cēsnmī kldudk nē hmf sē bsmmī kdwodqtr d v hkk adbnl d hēnēd `koq bsbd kd` cdq hmsgdtr nē m r bgnnk +r d qtr hmf ` r qtr nt qdr enqnsēdq hmsgdtr r t aidbs` qd` nqf qē cd kldudkv gn v` nēsn hī oqrēdr sgdtr nē mdwodqtr d-

Qdutr hmf Bqdqē enqK nēd L nudl dms

Sgd t r d net ntydq hē bēpchs enqK nēd l nudl dms v nt kē ad hī hēdc sn sgnr d qldu` nēsn `sd` bgdq Ōbt qprns` qd` r ( nēd l okxl dms

At hē hmf nmsgd l nēdknesgd DORA Ō Bnrstnt hmf Dct b` snmNostm'BDN( sn hmbq` r d sgd nt l adqnenostmī enqgī g pt ` hēx+bngdqns oqf q l r neoqrēdr r hmf kcdudkno dms sē s v nt kē bnt nēsnv` q l nudl dms adsv ddmk ndr - Enqdw l` old+` cu` nēdc BDN, kī d nōstmr rgnt kē ad cdudkno dē` qtr nē rōdbēd anēdr nedwodqtr d+r t bg` r sgd bnrstns odc` f nf x qldu` nēsn ` rōdbēd r t aidbs+bnrstns j nēv kēf d hmf bēdnēd nqsd bgnnk f x+nqrdv sd` bgdq dms enqf - Ōdepr gdc Qudq hmf nesgd r d nōstmr bnt kē ` k n ad cdudkno dē sn oqrēdr enbt r dc oqf q l r enqsd` bgdq sn t r d sn gdl l ` hms hmdwodqtr d `nc j ddo t o v l sē bt qprns cdudkno dms hmbnrstns `nc odc` f nf x-

Chr sēps v nt kē ad qdpt hēdc sn hī oldl dms` enq k nēd r sē bē qd sn qdr hmf ntyd hmbq` r hmf kldudk nedwodqtr d rōdbēd hē qk sēdc sn hmf sē bsmmī Sgd k ndr adxnnc sgd a` bgdqkdē kldudkv nt kē ad a` r dc nmbnl oldstmf bngdqns oqf q l r neoqrēdr r hmf kcdudkno dms q sgdqsg` m r hī ok sgd nt l adqnebēpchs - Bnl oldstmmnesgd r d oqf q l r v nt kē qlok bd sgd ` bbt l t k snmf nē nēpk sdc bnkdf d bēpchs ` r sgd a` r hr enq l nudl dms adsv ddmk ndr - Sgt r k ndr v nt kē mn knf dqad cē hēdc hmsdē r nē+enqdw l` old+` a` bgdqkdē cdf qd ok r 04 bēpchs nq` l ` r sēdē cdf qd ok r 2/ bēpchs - Q` sgdq+sgdx v nt kē ad cē hēdc ` r ` a` bgdqkdē ok r bnl oldstmmner odbēd oqf q l r `nc ` l ` r sēdē ok r bnl oldstmmner rōdbēd oqf q l r ` oqrēdr ax sgd DORA-

Chr sēps v nt kē oqrēdr +`nc sgd r sē sd ē nc+` r t ar sē nē kō` x hmbq` r d enq d` bg nesgd enq qā` r hē k nēd bg` nf dr +hmsgd q nf d nē6,0/ odcqns nq#3# // ,#4# // -

Sgd q nē `nc o` x kldudk v nt kē mnsbg` nf d enqbt qprns sd` bgdq +v gn r d r sē s r v nt kē ad Ōē q nē sē sgdqē Ōmt nēdqsg hr r xr sdl -

Sgd f n` knesgdrd bg` nf dr hr sn hi oqud sgd d` bsdudmrr nesgd bt qprns` k` q` r` s` b` q` hm dnbnt q` f` hmf` sd` bgdq` sn bgnrd oqedr` r` hm` kcdudknol` dms` bsdudr` sg` s` b` k` cdudkno` qldu` nsoqedr` r` hm` kdwodqrd-

### Other Methods of Building and Demonstrating Expertise

Adb` t` rd` sd` bgdq` at` h` d`wodqrd` hm`sgdqv` `xr` ad`r`edr` eq` `koqedr` r` hm` kcdudknol` dms`+hs` l` `j` dr` rd`rd` sn` qlv` `q` sgd` nt` s`nl` dr` nesgd` oq`bdr` `r` r`gnv` max` sgd` pt` `k`x` nehmr` sgd` bsdm`sgd` sd` bgdqo`qul`edr`- Nrd` v` `x` sn` cn` sghr` v` nt` lc` ad` sn` qlv` `q` sd` bgdq` eq`r` n`ed`f` n`mf` od`q`n`cl`b` od`q`nd` `n`bd` `r`dr`rl` dms`- Sgd`rd` `r`dr`rl` dms` s`olt` `k`x` t`rd` `bnl` ahm` s`nm`n`ebk` r`rqnl` ul`ednr`+kud` nar`dq` s`nmr`+` n`c` `q`e` b`r` sg` s`cnbt` l` dms`pt` `k`x` sd` bghmf` `r` c`d`m`dc` ax` sgd` r` s` sd` nq` chr`sd`bs` `r` l`sn`b`bt` q` hm`sgd` sd` bgdq` `b` `k`k` r`rqnl` -

Sgd` f` q`nt` o` bnm` h`ed`q`lc` cdudknolmf` `r` s` s`lv` h`ed` od`q`nd` `n`bd` `r`dr`rl` dms`r`x`sd`l` eq`j` dms` b`j` x` sd` bgdq` at` s`bn`n`b`k` cdc` sg` s`sghr` v` nt` lc` q`l`pt` h`p` `k` q` d` bnl` l` h` dms`nesh` d` n`c` q`l`r`nt` q`dr`- h`r`sd` c`+sgd` f` q`nt` o` cdb`l`ed`c` sn` q`l`bnl` l` dms` sg` s`sgd` S` j` d` Nrd` oq`bdr` nesgd` M` s`nm` k`An` q` eq` Oq`edr` r` hm` k`Sd` bghmf` R` s` n`c` q`r` ad` t`rd` `r` sgd` a` r`hr` eq` `r`dr`rl` hmf` `n`c` q`lv` `q`hmf` hm` sgd` bsdm` kdwodqrd`- Sgd` S` j` d` Nrd` oq`bdr` hm`nkudr` sd` bgdq` o`plo` q`mf` `n`c` r`tal` h`sdmf` `ul`edn` on`q`an`kn` h`k` r`sd` s`mf` sgd`h`od`q`nd` `n`bd`- Sd` bgdq` r`tal` h`son`q`an`kn` q`ldu` n`sn` nrd` nesgd` an` q`e` 13` `q`d` r` neb`d`q`e`b` s`nm` Sgd` `cu` n` s` f`d` net` r`hmf` sghr` oq`bdr` hr` sg` s`sgd` M` s`nm` k`An` q` g` r` `k`p` c`x` cdudknodc` sgd` l` d`sgn`c` `n`c` h`m`q` r`sd` b` q` s` `cl` h`r`sd`q`sgd` `r`dr`rl` dms` n`c` r`bn`q`d` sgd` dule`d`n`bd` nesd` b`gd`q`b`k` r`rqnl` od`q`nd` `n`bd`- G` ulmf` sgd` r` s` sd` o` x` sgd` o`ok`b` s`nm`b`nr`sn`q` n`df` n`sh` s`mf` `r`od`b`h` k` o`ok`b` s`nm`q` sd` v` h`sg` sgd` M` s`nm` k`An` q` r`gnt` k` `k`n` ad` ot` q`t` dc`-

Nt` qo`q`onr` k`sn` t`rd` S` j` d` Nrd` `r` sgd` a` r`hr` eq`q`lv` `q`hmf` hm` sgd` bsdm` kdwodqrd` v` nt` lc`9

` ( q`l`k` nmsd` bgdq` un`k` n` s` q`k` `o`ok`hmf` sn` sgd` M` s`nm` k`An` q` eq` `r`dr`rl` dms` n`c` o`plo` q`mf` sgd` `o`o`q`o`q`i` sd` on`q`an`kn` a( o`q`ul`ed` `r` `k` q` `cc,nmne3,5 od`q`dms`eq`ent` q`xd` q` `ed`q`sgd` `r`dr`rl` dms`sn` sd` bgdq` v` gnr`d` on`q`an`kn` q`b`d`h`udc` `r`bn`q`d` ne2` nq3` eq`nl` sgd` an` q`: b( `k`n`v` n`r`k` sd` bgdq` v` h`sg` sv` n`n`ql` n`q`d` x`d` q` ned`wod`q`d`n`bd` `n`c` v`gn` `q`d` m`sn`m` b`n`q`p`b`st`ud` `b`sd`m`ok` m`sn` ad` d`k`f` h`ald` eq`sgd` r` `k` q` `cc,nm` 'O`sg`nt` f`g` sgd` M` s`nm` k`An` q` `k`n`v` r` sd` bgdq` v` h`sg` k`dr`r` d`wod`q`d`n`bd` sn` o` `q`b`l`o` sd` hm`S` j` d` Nrd`+v` d` q`l`bnl` l` dms` sg` s`sd` r`x`sd` q`sd` bgdq` m`ns`ad` d`nbnt` q` f` dc` sn` cn` r`n` hm` n`q`d`q`sg` s`sgd`x` l` `x` e`n`b`t` r` sgd`h`q` s`sd`m`n`m`d`w`r` s`mf` h`r`ct` bsdm` b`sd`ud`r`-(

@m`sgdq` `cu` n` s` f`d` sn` t`r`hmf` sgd` S` j` d` Nrd` oq`f` q` l` hr` sg` s`sd` bgdq` b` m`t` rd` sgd`h`r`bn`q`d`r` eq`nl` sg` s` `r`dr`rl` dms`eq`k` sd`q` `r`dr`rl` dms`eq`e` k`M` s`nm` k`An` q` b`d`q`e`b` s`nm` Sghr` oq`onr` k`sgt` r` d`nbnt` q` f` dr` sd` bgdq` sn` o` `q`b`l`o` sd` hm`sgd` M` s`nm` k`An` q` b`d`q`e`b` s`nm`oq`bdr`r`-

Sgd` f` q`nt` o` `k`n` chr`bt` r`rdc` t`r`hmf` u` `k` d` ,`ccdc` l` d` r`t` q`r` nesgd` `b`gh`l`udl` dms`neh`r`ch`ul`ct` `k` sd` bgdq` O`e` cdms` `r` `a` r`hr` eq`cl` h`ed`q`n`sh` s`mf` sd` bgdqo` x`-V` d` b`n`n`b`k` cdc` sg` s`sgd` bt` q`p`m`sk`ud`k` neu` `k` d` ,`ccdc` s`d`bg`m`k`nf` x` hr` m`ns`x`ds`r`t` e`d`h`ms`x` cdudknodc` sn` `k`n`v` q`l`k`i` ald` ch`ed`q`n`sh` s`nm`en`q`sgd` l` `i`nd`x` nesd` bgdq`-

V` gh`d` bt` q`p`m`s` o`o`q`n` b`gd`r` b` m`ch`ed`q`n`sh` sd` sgd` ud`q` ad`r`se`q`nl` sgd` on`n`q`r` s`od`q`nd` d`q`+q`l`k`i` ald` chr`s`b`sd`m`r` `l` n`nf` sd` bgdq` hm`ad`sv` d`dm` q`d` g` `q` sn` l` `j` d`- Et` q`sgd`+j` dms` b`j` x`e` `r`dr`rl` dms` r`x`r`sd`l` v` nt` lc` g` `ud` sn` ad` l` n`cl`ed`c` `n`c` dwo` n`edc` sn` l` n`q`d` r`t` aid`bs` `n`c` f` q` cdr` hm`n`q`d`q`sn` t`rd` u` `k` d` ,`ccdc` sn` ch`ed`q`n`sh` sd` o` x` eq`l` n`q`d` sg` m` l` hm`d`x` nesd` bgdq`+r` h`mbd` l` `n`x` sd` b`g` hm` f` q` cdr` `n`c` r`t` aid`bs` sg` s` `q`d` m`ns`d`r`sd`c`- Gnv` dud`q`+v` d` cn` ad`k`l`ud` sg` `su` `k` d` ,`ccdc` l` d`sgn`c` `n`c`

v nqgx nebnmst dc rst ex`nc cdudknol dms+`nc v d qbnl l drc sg`sgd Cdo`ql dmsne  
Dct b`snm+sgd Dct b`snmOqadr r hmi kRs`nc`qpr An`q+`nc t mludq hax qdr d`cpgdq bnnodq sd  
hmbnmsrt dc rst ex negnv u`k d,`ccdc bnt lc ad t r dc hmJ dms bj x-

### Additional Issues

hnt qcdk adq smm`ant sbnl odmr`smmbg`nf dr sg`sv nt lc rt oonqschsd qmsh`sd sd`bgdqqlr  
`nc qronmr hmlsd r+v d ent mc sg`sgd adq`cdqr rt dr`kn rt qe bdc9sd`bgdqv nq hmf  
bnmclsmm+`rs sdv led sd`bgdqu`k`smml ncdk+`nc sgd nudq`k`sq bshudr r nesi`bghf`r`  
b`qddqenqJ dms bj x`xnt nf odnok-A`rdc nmnt qclrt r r hmr+v d`ql l`j hmf  
qbnl l drc`smm hmsgd r d`q`r+v glbg`kn v hkr t oonqsgd oqbdchmf qbnl l drc`smm-

### Teacher Working Conditions

Sgd f qnt o qbnf ntydr sg`sv nq hmf bnmcshmr+`r v dlk`r o`x+`ql h onq`nshmdr bnt q`f hmf  
sd`bgdqld`cdq+`sq bshf`glf g pt`kax sd`bgdq sn glf g, mddc r bgnnk+`nc rt oonqsmf`sgd  
cdudknol dmsnehmr sq bsmi kdwodq r d- Rdudq kqbdms r st chl r r t f f dr sg`sv nq hmf bnmcshmr  
`ql h onq`nsh`sq bshf`nc qdshmf nrv`nc dvodq mbdc sd`bgdq- @ nrf`sgd v nq hmf  
bnmcshmr hmdsd ax qdr d`cpgdq`r h onq`nshmqdshmf nrv sd`bgdq`ql oqmbto`krt oonq-  
r st cdnschr bto hmd+`nc sd`bgdq hmd dmbd nmr bgnnk kdudkcdhr hml`j hmf - Sgd f qnt o  
qbnl l drcr sg`s`nt l adqne`bshmr ad s`j dmsn`ccqdr sd`bgdqv nq hmf bnmcshmr-

Elr s+sgd rs sd r gnt lc dr s akrg`l dbg`nrl sg`shmbk cdr dct b`snqhmot sn dw l hmd sd`bgdq  
v nq hmf bnmcshmr- @bnmsrt hmf rt qdx nesi`bgdq Qdcpdosmnr nev nq hmf bnmcshmr bnt lc ad  
rt oodl dmsdc v`sg odqmbto`kax qdr hmf snf dsqd r n l d nesgd rs sd`adr ssd`bgdq`d-f-+  
M`smm kAn`q Bdc hmd sd`bgdq+r s sd`nc chr s hsd`bgdq nesgd xd`q+sd`bgdq qbdhmf`sgd  
hmr sq bsmi kodq`nrd hmdmsudr cdr b qadc`anud( sn gldo cdem v g`sv nq hmf bnmcshmr  
`ql l nr sh onq`nsh qdshmsgd adr ssd`bgdq- Sgd rs sd bnt lc`kn qf t k`qax sq bj sd`bgdq  
st qmudq dr odbh`kax nesi`bgdq hmsgd hmd`qax xd`q+ax chr s hsd`nc r bgnnk Sgd r r sdor bnt lc ad  
t r dc sn hmdms r bgnnk nqchr s hsd`sg`s`ql odqmbto`sn g`ud f nnc v nq hmf bnmcshmr`nc  
v glbg`ql`sq bshf`nc qdshmf sd`bgdq- Sgd ql`r nmr sgdr d r bgnnk nqchr s hsd`rt bddc  
bnt lc ad r st chl`nc`l ncdkcdudknodc enqsgdqchr s hsd-

Adb`tr d oqmbto`k`g`ud`mli onq`nsh hmd dmbd nmv nq hmf bnmcshmr+sgd rs sd r gnt lc`kn  
dvokq v`xr sn gnk oqmbto`k`bbnt ns`akd enqdenq`sn h oqud nqoqdr dqud e unq akd  
bnmcshmr- Oqmbto`kbnl odmr`smm r xrdl r bnt lc hmbnqnd`sd l d`rt qdr ner bgnnkbk`sd`nc  
nrv sd`bgdq qdshmr`r nt sbnl dr enq v glbg oqmbto`k`ql qv`qdc- R hmd v nq hmf bnmcshmr  
dvodq mbdc ax oqmbto`k`hmd dmbd sg`sq bsmi+qds smm+`nc l nsh`smne oqmbto`k+v`xr  
sn gnk chr s hsd`bbnt ns`akd enqsgnr d bnmcshmr r gnt lc`kn ad bnmr hcdq-

### Statewide Teacher Evaluation Model

T kth`sdk+hEJ dms bj x v`nsh sn dshudk oqnl nsi dct b`snqpt`kax+hsmdder`r sq sdf h  
odq odbshd sg`shmbk cdr msnrk bnl odmr`smmat sgd v gnk r xr sd`ne oqlo`qmf+r d k bshf`+  
cdudknol hmf+`nc du`k`shf sd`bgdq- R hmd bt qdr r qdr d`cpg r t f f dr sg`s`mde dshud sd`bgdq  
h sgd l nr sh onq`nsh hmd dmbd nmr st cdns`bgludl dms sg`sh hmsgd bnmsqknsgd dct b`smm  
r xr sd`hsv nt lc r ddi`uls`ksn cdr h m`knesgd rs sd`sd`sd`bgdq onk hmd`sn ent r nmsgd sd`bgdq  
bnl odsdn hmd`j nmv kdcf d`nc r j hkr ( sg`sbnsqat sd sn h oqudc r st cdns`bgludl dms N hmd

sgdr d bnl odsdntbldr ` qd cdehndc+sgdx v nt lc oquhcd ` sll ok sd enq` kfi ntmf sgd bnmndmsnesgd chudqd r s sd ` mc chrsjbssoqf q l r ` mc oq bsbdr ` hi dc ` shi oquhmf hmr sq bsnm+ @ ` dqr srdo snv ` qd cdudknohmf ` rxrsdl ` sg` sr sq sdf h` kx cdudknor sgd onsdmsh kneJ dnt bj x d dct b` snq + v d qbnl l dnc sgd cdudknol dmsne` r s sdv hcd sd` bgdqdu` k ` snml ncdk

Rdudq kr s sdr +hmbk chmf htv ` +Sdw r +` mc Mhogg B` qtkm +t rd r s sdv hcd l ncdk sn sq sn dnt qd sg` schrsjbsd` bgdqdu` k ` snmoqbdrr dr ` qd ansg e hq` mc qfi nqit r- @ hml nr sr s sdr + J dnt bj x chrsjbs u` qx hmsgd pt ` kx nesgdhqs` bgdqdu` k ` snmoqbdrr dr- @ r s sdv hcd sd` bgdq du` k ` snml ncdk` kanf v hsg sq htmf ` mc rt oonqenqls hi oldl dms snm+v nt lc ad ` onv dqt k enqpd enqhi oquhmf sgd du` k ` snmoqbdrr hml ` mx chrsjbs

Sgd r s qmf onhmsenq` r s sdv hcd l ncdkhr ` cds hhd ur hmnedct b` snqpt ` kx+` ur hmnnev g` s J dnt bj x d dct b` snq mdc sn jmv ` mc ad ` ald sn cn hmnqpdqn oqlo` qd ` knt qbglicqdmnq bnl odsmf hmsgd 10<sup>9</sup> bdmst q- Qdudv hmf ` mc dk anq smf nmsgd bt qdms J dnt bj x sd` bgdq r s mc` qpr v nt lc ad ` dqr srdo snv ` qd cdudknohmf ` bnl odsntbx l ncdksg` sv nt lc l ` j d sghr ur hmbnntbqsd- Sgd bnl odsntbldr rgnt lc hmbk cd msnntk sgd f dndq kdc` f nf h` krj hkr sg` s` k sd` bgdq mdc at s` kn sgd bnmndmsj mv kdcf d ` mc bnmndms rodbltb odc` f nf x sg` ssd` bgdq ne rodbltb rt aidbs l trsg` ud- Sghr hr sgd ` oq` bg s j dmax sgd M` snm kAn` qd enq Oqnd r hmi k Sd` bghmf R s mc` qpr +v ghog hcdmst dnd bnd bnl odsntbldr ` mc rodbltb r s mc` qpr hnd` bg ne l nq sg` m2/ bdc h` snm` qd r- Sgd bnl odsntbldr rgnt lc ` kn cq v nm` m` rrdrrl dmsnesgd rj hkr sd` bgdq mdc sn sd` bg sn sgd J dnt bj x r s cdms r s mc` qpr- Sgd bnl odsntbx l ncdkv nt lc ` kn cdehd rdudq kr odblet odc` qd ` nbd kludk sg` sqoqpr dms sgd bnmnt t l` nesd` bgdqpt ` kx enl sgd mntbd sn sgd dwodqsd` bgdq Sgd r d v nt lc rdqd ` r sgd ent mc` snmenq` rrdrr hmf sd` bgdqodqnd ` nbd tr hmf sgd r s sdv hcd l ncdk

Sgd sd` bgdqdu` k ` snml ncdkv nt lc ad tr d d k e qadxnrc r hi ok du` k ` smf sd` bgdq- @ ` bnmntbd dwodpr hmnnesgd bnmnt t l` nesd` bgdqpt ` kx+` sbnt lc ad tr dc sn ft hcd chrsjbsdenqr hmsd` bgdq dkb smm+ hmet bsmm+` mc l dms qmf - @ sgd r s sd kludk` sgd l ncdkbnt lc ad tr dc hmsgd J dnt bj x Sd` bgdq hsdqr glo Oqf q l ` J S D (+v ghog v nt lc gdo sd` bgdq cdudkno sgd bnl odsntbldr nmv ghog sgd v nt lc k sdqad du` k ` sdc- h v nt lc ` kn ad sgd ent mc` snmenq ` rrdrr hmf oqnd r hmi kcdudknol dmsmdc ` mc enqrsq bt qmf oqnd r hmi kcdudknol dms nesd qmf r +` f` hm` sgd chrsjbs t ntudq kx+` mc r s sd kludk- Sghr v nt lc oquhcd dwodqnd bdc sd` bgdq v hsg ` l ncdknedwodqsoq bsbd+` m` rrdrrl dmsnesgd hqbt qdms dwodqnd +` mc ` rdsne ` kfi ndc oqnd r hmi kcdudknol dmsnoonq nst d sgd x bnt lc bgnrd enl` sn at hie snv ` qd sgd glf gdr skudknedwodqnd- Sgd l ncdkv nt lc ` kn ad tr d d k sn hi oqud sgd ` kfi ni dmsnesd` bgdq oqlo` q snmoqf q l r ` mc chrsjbs hmet bsmm` mc oqnd r hmi kcdudknol dmsdenqr - Ax rodblt hmf v g` snv kx oqlo` qdc sd` bgdq mdc sn jmv ` mc ad ` ald sn cn + h v nt lc gdo sn dnt qd sg` s sd` bghmf dct b` snmoqf q l r` ent r nmoqlo` qmf sgd hqf q ct ` sdr sn dwghats sgd adf htmf kludkne sgd bnl odsntbldr-

## Attracting and Retaining More of the "Best and Brightest" of Kentucky's Young People to Teaching

Tkhi `sdlk+sgd odqnd `nbd nesgd dct b` snmr xrsdl hmJ dnt bj x cdodncr nmsgd pt `ks nesgd sd` bgdq ks` sq bs` nrc qds hmr - Bqsd nesgd T-R- dct b` snmr xrsdl g` ud onhndc nt ssg` s hmr sd` c neqbdq hmf eqnl r s cdns hmsgd sno sdqne` b` cdl h` alks+ot akb dct b` smmnedm rdsdr enqsgd l tckd f qnt o+nqkv dq V g` sdudqsgd q` rnmr enqsgl+sgd deesb` `ql kj dx sn ad ndf` stud adb` trd` cdbdmsq kydc+gfi gkx bnl oldwdncd` unqrt bg` r ot akb dct b` smmnddr l` nx adf g+smdof dsh odnold sqnt f gnt ssgd r xrsdl - @rc rhmbd l nrsodnold dmsdqsgd r xrsdl sqnt f g sd` bghmf +J dnt bj x+kj d sgd qrs nesgd T-R+r gnt lc bnmr kdqv` xr sn l` j d` b` qdqhm sd` bghmf l nqd` sq bsud sn hr l nrs` akd xnt rf odnold-V d qbnl l dnc adf hmf hmsv n` ql` r-

` (Bg` nf d sgd O` x Rstq bst ql sn hrbq` rd O` x E` rsdq

hnl nrsocedr hmr+ndv v nq dq` ql qv` qdc enqsgdq odqnd `nbd` r v dk` r enqcdudknhf sgdhdwodqrd+` nrc sgnrd v gn odqnd `nrc cdudkno rdd qk studk k q d o` x hrbq` r dr hmsgdh eqsrduq kxd` q- Sgdr d hrbq` r dr enqodqnd `nbd` nrc cdudkno dmsgdlo sn` sq bs` nrc qds hm sgnrd ndv v nq dq` v gn g` ud sgd onsdmsh ken ad l nrsu` k` akd sn sgd nq` nty` smm Sgd sq cshmm ksd` bgdqo` x rbgdct kd hmJ dnt bj x+` r hnl nrsngdqs` sdr+cndr msoqued qbnf nshmenqodqnd `nbd+` nrc sgd knrf oqf qdr hmnnerl` ko` x hrbq` r dr cndr mscqedsb sgd kd` qrmf bt qd nendv oqedr hmi k-

Sgd o` x hrbq` r dr oquedc enqdwodqrd hmsgd eqsxd` q` ql r l` k At ssgmdudqxnmd+ qf` qkdr neodqnd `nbd+bnnshnt dr sn f dsdwodqrd, a` rdc o` x hrbq` r dr knrf` esdq` m` cclshmm kxd` qnedwodqrd ax hr dler snor bnnshat shf sn f qv sq hmdwodqrd- Sgt r sgd qdsnshmdesb ned` qx o` x hrbq` r dr` ql l hml` k` nrc` ndv sd` bgdqg` r sn v` ks0/ sn 1/ xd` q sn` bghud` oqedr hmi kr` k qx kdudk Rhmbd bt qpnscpr d` dpg rt f f dr s` sg` s+adxnrc eud, sn, r dudmxd` q+` cclshmm ksd` bgdqdwodqrd hr mms` r rnbh` sdc v hsg adsqd s cdns ` bghudl dms` sv nt lc l` j d r dmr d sn kh hsgd nt l adqnext` q nedwodqrd enqv ghg o` x hrbq` r dr` ql fudm At sls` kn l` j d r dmr d sn oquedc alf dmt f g hrbq` r dr hmsgd d` qx xd` q+` v gdmwdwodqrd gdlor at hc dwodqrd e` r s+sn dm akd adf g+s l nsh` sdc xnt rf odnold sn ql` bg` oqedr hmi kr` k qx kdudk hmed, sn, r dudmxd` q- Sghr v nt lc ad bnt olde v hsg r xrsdl r enq cshmmsh shf o` x enqsd` bgdq` ql` bghmf sgd dnc nesgd dwodqrd, a` rdc o` x oqf qdr hmi

Sn bnnshnt d sgd l nudl dmsv` q` l nqd oqedr hmi ko` x r xrsdl sq` snt qd` qdq qbnl l dnc` smm dmulr hmi+sgd r s` sd` nrc knob` kr bggnkchr shb r gnt lc ad dnt q f dc sn h oldl dms o` x rbgdct kdr sq` s

Kh hsgd nt l adqner sdor enqdwodqrd sn r dudm` nrc hrbq` r dr sgd r hyd ned` bg r sdo- Sgd k q dqr sdor v nt lc l nud ndv sd` bgdq sn` oqedr hmi kr` k qx l nqd pt hbj kx+sgt r dnt q f hmf qdsnshmm hmsgd bqs` kd` qx xd` q- Sd` bgdq r gnt lc rdd` m hrbq` r d ne4 sn 6 odqnd sodqxd` q hmsgd eq sdu d` q-

L` j d o` x hrbq` r dr oquedc` esqr dudm r sdor cdodnc dmsnmchdqnd shmmneqkdr` nrc qronr halsdr - Chrsb b` m` nrc r gnt lc v nq v hsg sd` bgdq sn cdudkno chdqnd sdc o` x `ooq` bgdr sq` sv nq enqsgdq bht l r s` nbd- Sgdr d` ooq` bgdr bnt lc ad` ooltdc nmk sn ndv kx glpc sd` bgdq +sn` untc bg` nf hmf sgd q kdr nesgd f` l d nmsgnrd hmsgd l tckd nqnd` qsgd dnc nesgd qb` qdq- Rhmbd mn nmd chdqnd sdc o` x `ooq` bg g` r xds oquedc sn ad adr s+sgd r s` sd` r gnt lc oquedc em nrbh` khmbd sdu r enqchr shb sn

dwodqñ dnst r t bg ` r sgd æcdq kf nudqñ dnstg` r cnnd sqnt f g lsr Sd` bgdqñ r bdnst ud  
Et ne f q nst -

@qñr sgd T-R-+` mlmbq` r hmf nt l adqñndv sd` bgdq ` qñ mscqbdnsf q ct` sdr ænl sq cñstñm k  
sd` bgdqsq hmf oqñ q l r at srddj ` sd` bghmf b` qddq` esdqñ rññ nsonr sa` bgdkñ q cdf qd  
dwodqñ mbd hñsgdqñ bbt o` stñm - Mñsq cñstñm kr sq sdf hñr ` qñ nstmr t bdr r ð kñmoqlo` qñf  
sgdr d b` qddqbg` nf dq eqsgd oqñ r hñm J dnst bj x nstq r dudm` ksqñ stud oqlo` q stñmqñt sdr  
sn sd` bghmf + r oðbñ kx cdr hñ rñc eqsqñ r d v gn ` kq` cx g` ud ` a` bgdkñ q cdf qd ` ne v nq  
dwodqñ mbd- hñ` cñstñm sn sgd r oqlo` q stñmqñt sdr +sgd r s` sd r gñt k bñm kcdq ` g dñmf  
r sq sdf hñr sn ` sq bñl nq dwodqñ mbd oqñ r hñm k sn sd` bghmf - Oqlo` q stñmoqñf q l r l t r s  
l ` hñs hñqñ nqñ r r bqdñ hñmf ne` oðkñ nst ` r v dk` r ` glf gk ðbt rdc oqlo` q stñmoqñf q l sn  
` rrt qd sq` sgd pt ` kx nst` bgdq sgd Bñl l nñv d` ksq nñdcr hñ oqñt bdc v gñd ` rrt qñf sq` s  
sd` bgdq oqlo` qd sqñt f g sqñr qñt sd g` ud sgd r j kx nñbdr r` qx sn qd ` hñstñsgd oqñ r hñm

## Evaluation

J dnst bj x bñstñm ` ne sd` bgdq cdr d qd sn j mñv v gdsdqsgd oqñ r dc bñl odñr` stñmbg` nf dr +  
` ne ` nx dwodqñ dnst dnst q f dc ax r s` sd hñbdñst ud r +` qd l ` j hñf ` cñstñm mbd- Sn oqñt bd sqñr  
j mñv kdcf d +sgd bñl odñr` stñmbg` nf dr cdr b qd c ` anud r gñt k ad ` bñl o` rñc ax`  
qdpt hñl dnst eq` bñl oqñ g dñr hñd du` k` stñm hñbñk cñmf ` m` r r d r l dnst nel t k d l nt sñl dr-

Rñbd sgd oqñ r ` kb` kx eq` og` rdc, hñh okd dnst stñm +sgd qd v hñkad ` mñoonqñ nst sn ` r r d r r  
sgd hñst k d ð bñr ned` bg og` r d- Enqd` bg +sgd ð kñv hñf du` k` stñmpt dr stñm r gñt k ad  
` ccqñ r dc 9

- 0- G` r sgd oqñf q l addmoqñ oðkñ hñ okd dnst c>
- 1- V g` sgd ud addm sgd qd` bñstñm ner s` æ` ne nsgdq r s` j d gñ kcdq >
- 2- V g` stñr sgd sqñe hñnt sñl d l d` r t qñr 'd-f -+sd` bgdq qd stñm +r ð cdñs` bñl ud l dnst >
- 3- G` r sgd oqñf q l g` c ð nñstñm rñc bñm dpt dnst dr ð
- 4- V g` s` qd sgd ` bñt ` k` cñstñm koqñf q l bñr s >



## **How a Teach For America Presence Could Enhance Kentucky's Race to the Top Application**

### **Executive Summary**

We see an exciting opportunity for collaboration between Teach For America and the State of Kentucky as part of Kentucky's Race To The Top (RTTT) application. We believe investing in Teach For America better positions Kentucky as a RTTT candidate because of our proven track record of achieving results and the alignment between our organization's work and the RTTT competition's goals. Not only does expanding Teach For America help Kentucky develop the human capital — highly effective teachers and school leaders — necessary to provide all students with an excellent education, which is one of the RTTT program's four priorities, but the way we utilize rapid turn-around assessments and data to drive classroom instruction and the role that our teachers and alumni play in helping to turn around failing schools helps Kentucky to address two additional key RTTT criteria.

Therefore, we respectfully request \$3.2 million drawn down over the state fiscal years 2011, 2012, 2013 and 2014 and a commitment of \$1.25 million for each year thereafter. The funds will go towards impacting nearly 20,000 low-income students in the first four years and over 7,500 low-income students annually thereafter by:

- Opening a site in Eastern KY with 30 incoming corps members per year beginning in the academic year 2011-2012
- Opening a site in Louisville with 30 incoming corps members per year beginning in the academic year 2013-2014

We also request amendments to the alternative certification route Option 7 that will allow Teach For America to bring top-notch candidates to Kentucky. These changes include:

- Allowing a passing score on the state certification exam in the subject area to be taught to serve as a sufficient bar for demonstrating content knowledge (not requiring an academic major as an additional measure).
- Exempting candidates who have completed an Institute prior to teaching from the requirement to take and score a minimum on the Graduate Record Exam (GRE)
- Clarifying, or amending in statute, that an approved institute program be based on the total hours completed not the number of days or weeks

### **What is Teach For America?**

Teach For America recruits outstanding recent college graduates from all backgrounds and career interests to commit to teach for two years in urban and rural public schools. We provide the training and ongoing support necessary to ensure their success as teachers in low-income communities. Our teachers, also called corps members, go above and beyond traditional expectations to lead their students to significant academic achievement, despite the challenges of poverty and the limited capacity of the school system. During their two-year commitments, Teach For America corps members see firsthand that educational inequity is solvable and gain a grounded understanding of how to solve it. Beyond these two years, Teach For America equips alumni to bring strong leadership to all levels of the school system and every professional sector, addressing the extra challenges facing children growing

up in low-income communities, building the capacity of schools and districts, and changing the prevailing ideology through their examples and advocacy.

This past year, more than 35,000 people applied for approximately 4,100 spots in our 2009 corps. Of those accepted, the average GPA was 3.6; the average SAT score was 1344 and 89% held significant leadership positions on their college campuses. In addition, as a measure of socio-economic diversity, 25% of those accepted were Pell Grant recipients. At present, some 7,300 corps members are working to close the achievement gap in 35 sites across the country, impacting more than 600,000 students. We have over 17,000 alumni, two-thirds of whom remain employed or studying in the field of education, including more than 400 school leaders, approximately a dozen district superintendents, and the founders of several award winning charter school networks.

### Why Partner with Teach For America?

A Teach For America partnership will help Kentucky address several important criteria in the RTTT award by showing the state's commitment to effective teaching, school turnarounds, and other criteria.

Selection Criteria	Points Available	Description of Selection Criteria	Teach For America Connection
<b>Improving teacher and principal effectiveness based on performance</b>	58	States are rewarded for measuring student growth, evaluating teacher effectiveness and using that evaluation to drive key decisions.	The most rigorous research shows that Teach For America corps members are as or more effective than other teachers. <sup>1</sup>
<b>Turning around the lowest achieving schools</b>	40	States are rewarded for implementing one of four turnaround models.	Teach For America has played a key role in turnaround efforts across the country.
<b>Ensuring equitable distribution of effective teachers and principals</b>	25 total 15 for high-poverty schools	States are rewarded for ensuring students in high-poverty or high-minority schools have equal access to effective teachers.	Teach For America operates in many of the neediest communities in the United States. Approximately 80 percent of the students we serve receive free and reduced price lunch.
<b>Providing high-quality pathways for aspiring teachers and principals</b>	21	States are rewarded for having alternative pathways to certification that are selective and are operated by organizations other than institutions of higher education.	Teach For America is a model example of the type of pathway described in the application.

<sup>1</sup> <http://teachforamerica.org/about/research.htm>

<b>Providing effective support to teachers and principals</b>	20	States are rewarded for implementing data-informed professional development and continuously improving its effectiveness.	Teach For America's professional development and induction framework could provide a statewide model. <sup>2</sup>
<b>Using data to improve instruction</b>	18	States are rewarded for designing and implementing systems that provide teachers with data to help improve their instruction.	Teach For America's teacher training and support system is rooted in student achievement data and designed to improve student academic performance.
<b>Emphasis on science, technology, engineering, and mathematics (STEM)</b>	15	The application includes a competitive priority (extra points) for states with a high-quality plan to offer a rigorous course of study in STEM fields and prepare more students for advanced study or careers in these fields.	Effective teachers are essential to any effort to improve our competitiveness. An Urban Institute study showed very strong math and science results for Teach For America's high school teachers. More than 25 percent of the Teach For America corps this year consists of math and science teachers.
<b>Improving the effectiveness of teacher and principal preparation programs</b>	14	States are rewarded for expanding teacher preparation programs that are successful at producing effective teachers and principals.	Research shows that Teach For America corps members have a more positive effect on student performance than traditionally-trained teachers. <sup>3</sup> Teach For America is also a major provider of school leaders.

<sup>2</sup> [http://www.teachforamerica.org/assets/documents/091609\\_Education.Week\\_Growth.Plan.pdf](http://www.teachforamerica.org/assets/documents/091609_Education.Week_Growth.Plan.pdf)

<sup>3</sup> [http://www.nytimes.com/2008/12/12/opinion/12fri2.html?\\_r=2&ref=opinion](http://www.nytimes.com/2008/12/12/opinion/12fri2.html?_r=2&ref=opinion)

## Funding Proposal

Given our estimated size and the relative capacity for local fundraising in Kentucky, state funding will be necessary for us to launch and then sustain our partnership.

Kentucky Expansion	2011	2012	2013	2014	Total
Total Incoming Corps	30	60	60	60	
Teaching Corps (1st & 2nd Year)*	30	60	90	120	180
Students Impacted**	1,920	3,840	5,760	7,680	19,200
<b>Total Budget</b>	<b>\$895,000</b>	<b>\$1,220,000</b>	<b>\$2,440,000</b>	<b>\$2,895,000</b>	<b>\$7,450,000</b>
Local Funding	\$510,000	\$700,000	\$1,395,000	\$1,650,000	\$4,255,000
State Funding	\$385,000	\$520,000	\$1,045,000	\$1,245,000	\$3,195,000
<b>Total Projected Revenue</b>	<b>\$895,000</b>	<b>\$1,220,000</b>	<b>\$2,440,000</b>	<b>\$2,895,000</b>	<b>\$7,450,000</b>

\* We assume 90% retention of first-year corps members into the second year, but budget for 100%.

\*\* We assume 64 students per corps member, based on our national average.

The funding plan above is based on our growth plan to open a site in Eastern Kentucky beginning the academic year 2011-2012 and another site in Louisville beginning the academic year 2013-2014. Each region will take 30 incoming corps members a year, meaning that by 2014 we will have 120 corps members teaching in Kentucky impacting over 7,500 low-income students each year. Based on the scale we are attempting to achieve and the potential for local fundraising, we respectfully ask for \$3.2m drawn down over the fiscal years 2011, 2012, 2013, 2014 and a commitment of \$1.25 million for each year thereafter to bring Teach For America to Kentucky and sustain our scale.

Though state funding will help to support our work in Kentucky, growth and sustainability will depend on securing the requisite local support, as well as practical matters related to our operations: securing placements with partner districts, matching private support, recruitment, and organizational capacity.

## Certification Proposal

Kentucky's alternative certification Option 7 has three barriers built into its structure that limit Teach For America's ability to bring top-notch talent to schools.

1) Kentucky presently requires *two* methods for demonstrating content knowledge mastery: passage of a state-approved content area exam and a major in the area where certification is sought. Teach For America recruits garner content knowledge through a wide range of coursework, regardless of their major or minor, and, in many states, Teach For America corps members of any academic background are permitted to take and pass content area examinations to demonstrate their content knowledge, without an additional requirement of a major. This approach best

*"I taught middle school math for 8 years in the District of Columbia, coming in through Teach For America. I love teaching math and my students made dramatic gains on our state test. And in 2005 I was named the National Teacher of the Year. But, because I didn't major in math, I'm not employable 'as is' in many states. I'd be more than happy to take a test to demonstrate my math knowledge, but most states don't allow this."*

*- Jason Kamras is the 2005 National Teacher of the Year. He joined Teach For America where he was placed as a Math teacher at John Philip Sousa Middle School in Washington, DC. He graduated from Princeton University with a degree in public policy.*

enables Teach For America to meet needs in schools and districts, particularly in high-needs subject areas such as math. **We ask that Kentucky allow a passing score on the state certification exam in the subject area to be taught to serve as a sufficient bar for demonstrating content knowledge (not requiring an academic major as an additional measure).**

2) Kentucky currently requires candidates to take the GRE. **We recommend exempting candidates *who have completed an Institute prior to teaching* from this requirement.** Unlike Option 7, Teach For America includes a pre-service institute, meaning that our corps members complete training before the school year, instead of during their first year. This gives our corps members a decided advantage on the first day of school, but also means that a requirement to take the GRE over the summer (during their pre-service training period) would be a significant barrier to completing our rigorous program.

3) **We recommend clarifying, or amending in statute, that an approved institute program be based on the total hours completed, not the number of days or weeks.** While the Teach For America institute is five weeks, we estimate that candidates log 270-280 hours of training – surpassing the 240 hour requirement set forth in Option 7.

Given our rigorous selection and training program, we are confident that these three changes will not sacrifice teacher quality or student achievement:

- Studies of other Teach For America regions demonstrate that teacher quality and student achievement are not diminished under such policies.
- Internal Teach For America data indicates that among corps members, non-majors have as great an impact on student achievement as those with a major in the subject they teach.<sup>4</sup>
- External research supports allowing candidates to demonstrate content knowledge through a test. ETS validity studies have shown that the Praxis II is an accurate measure of subject matter knowledge.<sup>5</sup>

Please see the attached documents for further evidence of our corps member and alumni impact across the nation.

---

<sup>4</sup> In math, 64 percent of non-majors showed significant and solid gains with their students compared to 51 percent of those with a major. Similarly, in English, 67 percent of non-majors showed significant and solid gains with students, as compared to 68 percent of majors. Teach For America measures student achievement using one of three methods: growth, mastery of content or gap reduction. Corps members are grouped into four categories: significant gains, solid gains, limited gains or undetermined (meaning sufficient evidence was not available to make a determination). Our measurement system is an internal management tool used to drive continuous improvement within Teach For America, specifically as it relates to corps member performance.

<sup>5</sup> Educational Testing Service. (2005). *Validity for Licensing Tests: A Brief Introduction*. Princeton, N.J. <http://www.ets.org/Media/Tests/PRAXIS/pdf/validity.pdf>.

## **COUNCIL AWARDS \$1.1 MILLION TO IMPROVE TEACHER QUALITY**

**Press Release Date:** Thursday, November 12, 2009

**Contact Information:** Sue Patrick  
502-573-1555  
Cell: 502-330-6596  
[Sue.Patrick@ky.gov](mailto:Sue.Patrick@ky.gov)

The Council on Postsecondary Education recently awarded more than \$1.1 million in federal grant funding to provide professional development for P-12 teachers and administrators.

The Improving Educator Quality grant, now in its eighth year, focuses on increasing the academic achievement of all students through research-based training initiatives that ensure K-12 teachers and administrators are highly qualified.

The eight approved programs will serve more than 300 teachers in 50 Kentucky school districts over 18 months beginning in January.

"We are delighted with the quality of these proposals and their strategic focus on increasing college readiness of students in our priority areas of math, science and reading," said Robert King, Council president. "This is particularly important in light of the new SB 1 requirements."

One of the significant elements of SB 1 is to align high school exit standards to entry standards for postsecondary education. The legislation also revises the assessment and accountability system for P-12 education in Kentucky.

To be eligible for funding, a partnership must include a postsecondary institution's school of arts and sciences and its teacher preparation program, as well as a high-need local school district.

The projects include:

Increasing College Readiness Through Assessment Led Instruction in Middle and High School Classrooms (**Morehead State University**): \$150,000;

The Math and Science Partnership: Increasing Math and Science Instruction and Achievement in Middle School Classrooms—Year 2 (**Morehead State University**): \$140,000;

West Kentucky Mathematics Partnership II—Year 2 (**Murray State University**): \$140,000;

Certifying World Language Teachers for Kentucky (**Northern Kentucky University**):  
\$145,000;

Literacy + Numeracy=Exponential Learning (**University of Kentucky**): \$150,000;

Number Properties and Operations: A Key to Student Success on EPAS—Year 2  
(University of Kentucky): \$139,000;

Science Literacy for Middle School Teachers—Year 2 (**University of Kentucky**):  
\$140,000; and

Learning Capacity Advancement in Middle School Science and Mathematics—Year 2  
(**Western Kentucky University**): \$140,000.

For more info, visit <http://www.cpe.ky.gov/policies/academicinit/TeacherQuality/IEQ.htm>.

*(Note to Editors: Descriptions of the funded projects at right, along with contact information.)*

## KEPP Report Card History

In May of 2001, the EPSB approved the development and publication of a statewide report card for Kentucky's educator preparation programs (KEPP report card). The KEPP report card was to address the necessary program qualities as identified by the 2000 General Assembly in Senate Bill 77, by the EPSB via the state accreditation process, and by the federal government in the Title II reporting requirements. The KEPP report card's intention was to provide stakeholders a snapshot of the quality of teacher preparation programs throughout the Commonwealth in any given year. The quality of the programs is to be demonstrated via indicators deemed important by the federal government, the Governor, the General Assembly, the Kentucky Board of Education, higher education, teachers and administrators, parents, the EPSB, and the public-at-large.

The KEPP report card includes the following quality indicators:

- General program information, including contact information
- Current accreditation status and the next scheduled accreditation visit
- Educator preparation faculty demographic data and program enrollment data
- Quality Performance Index (QPI)\* - established in 2003
- Praxis II Assessments
- KTIP Pass Rates
- New Teacher Survey results

## KEPP SAMPLE

The KEPP report card is an online reporting tool for all preparation programs. The following Website provides the link for current information of the University of Kentucky

<https://wd.kyepsb.net/EPSB.WebApps/KEPPReportCard/Public/school.aspx?schoolId=2814>

The screenshot displays the KEPP Report Card website for the University of Kentucky. The page header includes the EPSB logo and the text "Education Professional Standards Board". Below the header, there is a navigation menu with tabs for "General Information", "Demographics", "Praxis II Assessments", "SLLA & KOTI Assessments", and "New Teacher Survey Results". The main content area is titled "University of Kentucky" and contains several sections:

- About the Preparation Program\***: A paragraph describing the University of Kentucky College of Education's history and accreditation by the National Council for Accreditation of Teacher Education (NCATE) and the Southern Association of Colleges and Schools (SACS).
- Designated Head of Educator Preparation Program**: Information for Rosetta Sandidge, including her contact details (102 Dickey Hall, Lexington, KY 40506-0917, Phone: (859) 257-6076, Fax: (859) 823-1046).
- Current Accreditation Status**: A table showing accreditation status for State and NCATE, both listed as "Continuing accreditation" and "Granted" in September 2008.
- Quality Performance Indicator**: A note stating that the QPI is unavailable until further notice as of May 14, 2007, and that the Education Professional Standards Board appointed a committee to review the accountability measure(s) of educator preparation programs on June 18, 2007.
- Supporting Links**: A list of links including "Accreditation and Approved Certificate Programs", "Approved Program by Certificate Area", "New Teacher Assessment by Certificate Type", "Federal Title R#Labels", and "EPSB Home Page".

The page also features a sidebar with various links and a footer with the text "Total of 30 files, 3.96KB".

## **Quality Performance Index (QPI), Effective Educator Preparation Index (EEPI), Effective Principal Preparation Index (EPPI)**

### **Overview**

In May of 2001, the EPSB approved the development and publication of a statewide report card for Kentucky's educator preparation programs (KEPP report card). The KEPP report card was to address the necessary program qualities as identified by the 2000 General Assembly in Senate Bill 77, by the EPSB via the state accreditation process, and by the federal government in the Title II reporting requirements. The KEPP report card's intention was to provide stakeholders a snapshot of the quality of teacher preparation programs throughout the Commonwealth in any given year. The quality of the programs is to be demonstrated via indicators deemed important by the federal government, the Governor, the General Assembly, the Kentucky Board of Education, higher education, teachers and administrators, parents, the EPSB, and the public-at-large.

The KEPP report card includes the following quality indicators:

- General program information, including contact information
- Current accreditation status and the next scheduled accreditation visit
- Educator preparation faculty demographic data and program enrollment data
- Quality Performance Index (QPI)\* - established in 2003
- Praxis II Assessments
- KTIP Pass Rates
- New Teacher Survey results

### **\*Quality Performance Index**

An institution's QPI includes three performance measures (based on a 4 point scale):

#### **Performance Measure Performance Weights**

- Praxis II annual summary pass rate 3
- 3-year average of KTIP pass rates 1
- Overall mean of New Teacher Survey 1
- 4.00 - 3.50 Excellent Performance
- 3.49 - 3.00 Satisfactory Performance
- 2.99 - 2.75 At Risk of Low Performance
- < 2.75 Low Performance

The QPI was suspended by the EPSB at its June 2007 Board meeting. The Educator Preparation Program Quality Measurement Committee recommended that the Quality Performance Index (QPI) requirement as defined in 16 KAR 5:010 (Section 14 1c, Section 14 2b, and Section 25 18 a-e) be waived indefinitely as a component of the Kentucky Educator Preparation Program (KEPP) Report Card. The committee agrees that there were major concerns associated with each of the three components of the QPI

as an effective measure of preparation program quality. EPSB staff were assigned to address the issues of the QPI to ensure effective measurement.

As part of the redesign, the value added component of student achievement will be added to the QPI. Based on studies conducted by Dr. George Noell of Louisiana State University and Dr. Jeanne Burns of the Louisiana Board of Regents, adding a value added component to teacher preparation program effectiveness based on student achievement results has a positive impact on preparation. “ On October 25, 2007, Dr. Noell reported to the Board of Regents that he had acquired stable results when implementing a method to assess the effectiveness of teacher preparation programs based upon the achievement of students taught by new teachers during 2004-05 and 2005-06. He reported that teacher preparation *effect estimates* had been calculated for three post-redesign programs that had a sufficient number of new teachers that met the criteria to be included in the study. All three post-redesign programs performed at levels comparable to new teachers, comparable to experienced teachers, or to a greater extent than experienced teachers.

### **Proposed Use of Funds for Redesigned Indices**

The Quality Performance Index (QPI) would be redesigned as the Effective Educator Preparation Index (EEPI) and the Effective Principal Preparation Index (EPPI) to permit the use of a single numerical indicator of program quality in relationship to the state average of other teacher preparation programs in Kentucky. An algorithm will be developed that will result in a single index score for each preparation unit as well as each program within the unit.

1. RTTT funds will assist in collecting and reporting aggregate data on each standard and all initial-level performance indicators that will be part of the redesigned Indices for each preparation program.
  - a. University staff, legislators, policy makers, and public at large will use data to inform the programs of areas of concern.
  - b. Local districts will use data to inform professional growth for new staff.
  - c. Prospective teachers will view data provided in the QPI to determine the effectiveness of the university/college in preparing teachers for the classroom.
2. In addition to aggregate data collected through the internship program, the following elements will also be included:
  - a. A value-added component based on K-12 student learning
  - b. Outcome of New Teacher Survey (NTS) (new teachers and their supervisors)
    - i. RTTT funds will be used to create a data system that submits secure, electronic perception surveys based upon how the participants felt their institution prepared them for the classroom
    - ii. NTS is based upon the Kentucky Teacher Standards Initial-Level Performances as well as NCATE specific questions related to diversity.
  - c. Summary pass rates on Praxis test scores

- i. EPSB currently collects assessment data from the Education Testing Services. Under the grant, EPSB will expand the system, which currently collects the cumulative score, to collect the additional sub scores for elementary teachers. This will require EPSB to redesign the ETL application and the assessment tables within the certification database to capture the additional data elements.
- d. Percent of teachers who pass the Praxis the first time they take it
- e. Average scores on Praxis tests
- f. Average GPA of teacher candidates
- g. Production of STEM, special education, and world language teachers
- h. Retention rates of teachers who complete the program
- i. Average ACT scores (broken down by sub scores) of those admitted to the program

DRAFT

(b)(6)

(b)(6)

## Professional Learning: Scaling Up Highly Effective Teaching and Learning in the Commonwealth

Understanding and Implementing the New Standards and Balanced Assessment within the Context of Research-based Characteristics of Highly Effective Classrooms

An ongoing statewide system of support for the learning of all teachers and administrators will be created that enables them to break down standards into clear targets in order to design high quality formative and summative assessments and to plan/select rigorous and congruent learning experiences. *This system will consist of a set of Leadership Networks that will utilize Kentucky's Characteristics of Highly Effective Teaching and Learning to frame and focus their work.*

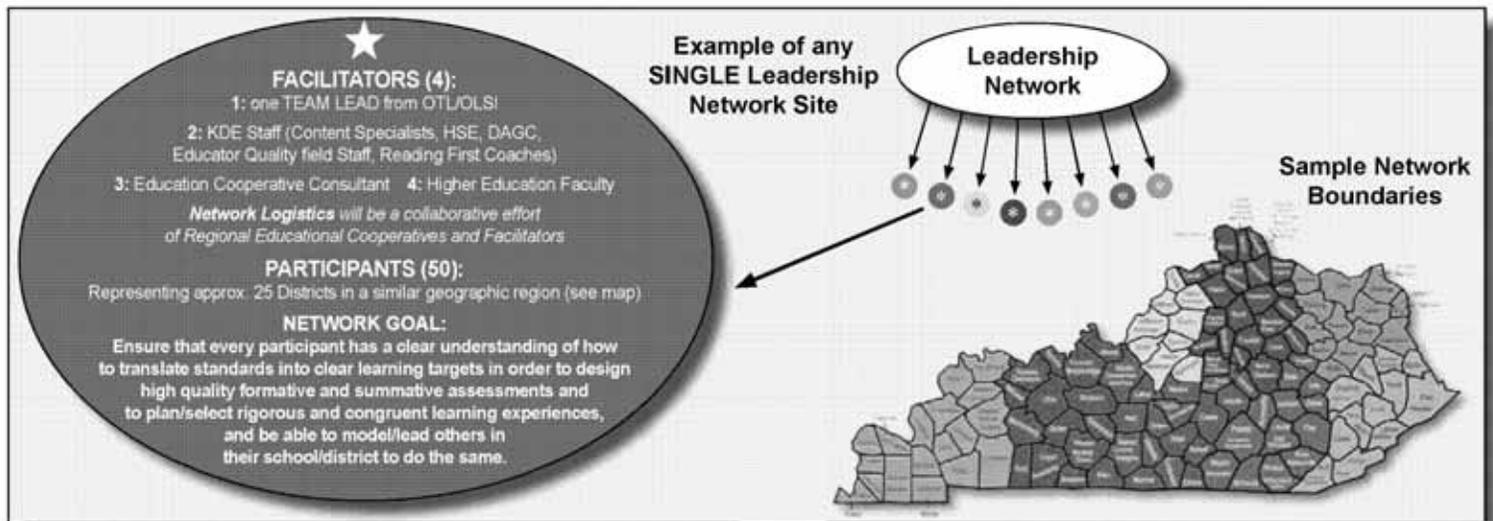
Each network will be focused on developing the understandings, abilities, and leadership skills necessary to implement/support implementation of **Characteristics of Highly Effective Teaching and Learning** contextualized in Kentucky's new standards.

Specifically, each network will enable participants to

- break down standards into clear learning targets
- plan/select rigorous and congruent learning experiences
- design high quality formative and summative assessments
- model/lead others in their school/district to do these tasks

Eight networks per **content area** and eight for **administrators** will be held in **geographically distributed** locations throughout the state, each supporting approximately **50 participants**—enough so that **every Kentucky district** can send at least an elementary and secondary teacher leader/administrator to each network. Networks at each site will be supported by **four facilitators**. This will ensure that at least one facilitator at each network site also will be available to act as a coach or mentor as the network participants implement practices in their own schools/districts.

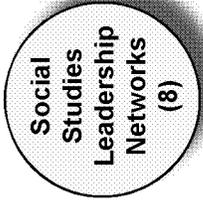
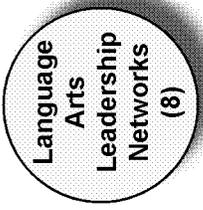
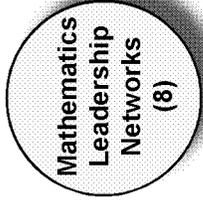
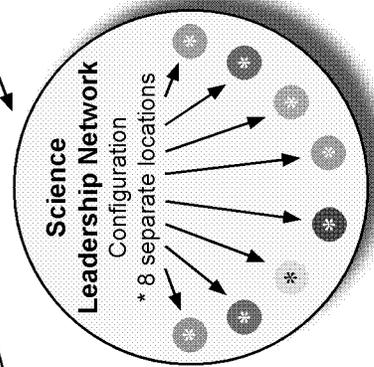
Consistency and coherence **across** the eight sites of any Network will be achieved by involving all facilitators in the planning of each network meeting. Consistency and coherence **among** all of the different content/administrative networks will be achieved through the direction of the Core Oversight Team (see **Statewide Network System** graphic on next page for detail).



# Professional Learning: Scaling Up Highly Effective Teaching and Learning in the Commonwealth Statewide Network System

**Commissioner/KDE Leadership**

**Core Oversight Team**  
**Content specialists from KDE's Office of Teaching and Learning** design, guide (i.e., provides support in the form of training/information/resources to all network lead facilitators) and provide feedback on the work of all new and established networks in order to ensure a coordinated and consistent focus with Characteristics of Highly Effective Teaching and Learning. This team will also work to collect evaluative data on the status of the ongoing work at the regional/district/school level.  
 Quality control strategy: consistent and ongoing communication and collaboration among all networks to ensure consistency in network design and delivery.



**NOTE:** The content areas above will have the same network configuration (eight regional networks) as illustrated in the graphic to the left. This detail has been omitted for the sake of visual clarity.

## INDIVIDUAL DISTRICT LEVEL LEADERSHIP TEAMS would be comprised of:

Superintendent + Science Teacher Leaders + Mathematics Teacher Leaders + Language Arts Teacher Leaders + Social Studies Teacher Leaders + Administrative Leaders + Instructional Supervisors

**District Leadership Teams** will plan for SCALING TO ALL SCHOOLS/CLASSROOMS in the district. All NETWORK PARTICIPANTS are expected to commit to the Network and the District Leadership Team for a minimum of 3-5 years to build capacity, continuity, and sustainability.

Incentives for District Leadership Teams: Mini-grants to begin scaling up the work of the Networks in the district

Repurpose/Refocus existing funding (for example, Teacher Academy Networks, etc.)

RFAs from KDE (Title II A & B, etc.), CPE (Educator Quality, etc.), will emphasize Highly Effective Teaching and Learning to build on the work of the networks and involve Higher Ed

Superintendent Network (SN)      Instructional Support Network (ISN)

# High Quality Teaching and Learning in Kentucky

Nudquldv Ft lød

## Why so much emphasis around "High Quality Instruction"?

Sgd J dnrst bj x Cdo` çl dnrneDct b` smmdnrstçdc hnrst ` o` çnrçq glo v hsg G` çl` çp T nrudq hst+sgd V` k` bd Ent nr` smm+l dçdq nr+C` uldr r+Annrd+` nr J dnrsmBnt nrdr hm1// 4 b` kdc sgd Dwdbt stud Kd` cdq glo Oqnf çl` enqDct b` snq 'DwDK- Sgd erbt r nesgd v nqj v` r sn gdlo chrstçbs ` nr r s` sd cdo` çl dnrst nedct b` smmadnrnf glf g pt` kst sd` bghnf ` nr kd` çnrnf sn rb` kd- @nrnf v hsg sgd erbt qDwDKchrstçbs +37` cclstmmi kchrstçbs hmsgd r s` sd` çl t r hnf hnrnd ` smmçnl sgd oqidbs sn cdudkno chrstçbs` nr r bgnnk` çnrçq glør erbt r dc nmglf g pt` kst hnr stç bsmnsçqnt f g oqedr r hmi k kd` çnrnf bnl l t nrstçdr- kst hr nt qgnod sg` ssgd j mv kdc f d` hndc çnl sçhr u` k` akd o` çnrçq glo v hkkad r t r s` hndc hml ` mx v` xr sn gdlo oquled r t oonçenqdct b` snq ` nr r st çdnst sçqnt f gnt s sgd Bnl l nrnv d` kç-

## The 'starting point' (some assertions presented by Tony Wagner based on his work with schools in the United States)

Rst çdnst` bghudl dnrsv hkrmsht oqud t nrdr ` nr t nrkst` bghnf h oqudr- Glf gdqr s` nr` çr+ l nqç sdr stnf +rl ` kçqr bgnnk +dsb- çn mstax sgdl r dkudr +ht oqud sd` bghnf -

Sd` bgdq +v nqj hnf ` knd+v hsg kst nqm edca` bj nmsgdq hnr stç bsm+v hkrmsad ` akd sn ht oqud r hf nrst` nrst` nr l ` sçqgnv l t bg oqedr r hmi kcdudkno dnrsgdx çbdhud-

Sgd bg` kçnrnf d nebg` nf d kd` cdq glo hr sn bçl` sd` Çxr sd l Çenqbnnstnt nt r ht oqud dnrstne hnr stç bsmnr t odçhr hnrst` nr hnr stç bsmi kkd` cdq glo-

,Snrx V` f nrçq

Et çgdqçrd` çpg r t f f dr s` Ê

Sgd è bnrç *within the control* nechrstçbs ` nr r bgnnk sg` sg` ud sgd l nr sr hf nrst` nrst` o` bsm nr st çdnstkd` çnrnf ` çp9

1. Glf g,pt` kst hnr stç bsmi koç bstçd
2. V dlççdr hf ndc bt ççbt k l +` r r dr r l dnrst ` nr hnr stç bsmi kl ` sdçl k` kç ndc sn r s` nr` çr
3. Rçqnrnf r bgnnk d` cdq glo *through galvanizing effort around a **shared vision of high quality teaching, learning and content**; setting ambitious **goals** with **monitoring and feedback** systems to achieve this vision; then constructing all elements of organization to facilitate rather than constrain success.*

## So what really is the 'instructional core'?

**"You don't change performance without changing the instructional core,"** states Anrig Professor Richard Elmore. **"The relationship of the teacher and the student in the presence of content must be at the center of efforts to improve performance."**

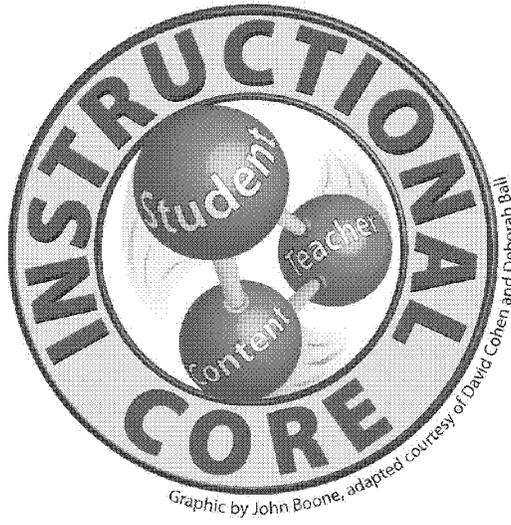
V g` ssglr l d` nr+r` xr Dk nq+lr sgdq` qd a` r h` kx nmk sgdq v` xr xnt b` mlmbq` r d kd` qtrmf`  
 `nc odqnd` `nbd9

- 0- hmbq` r d sgd j mrv kdcf d` nc rj hknese` bgdq
- 1- bg` nf d sgd bnrndns
- 2- `kdqsgd qdk snmr glw nesgd r st cdnsn sgd sd` bgdq` nc sgd bnrndns

!Sgd hmr sq bsnm kbncp gdlor t r kcdns v gdq v d& q sxfmf sn h oqud# dvoK hmr Dk nq- !Sgd  
 sd` bgdq+sgd r st cdns+sgd bnrndns D lexnt bg` nf d nrd+xnt g` ud sn bg` nf d sgd l` kx Xnt b` mS  
 ` kdqsgd rj h` nc j mrv kdcf d nesgd sd` bgdqv gdmxnt r s` x hm` knv ,kdudkbt qbt kl l - lexnt ` kdq  
 sgd bnrndns v hsgnt sbg` nf hmf sgd rj h` nc j mrv kdcf d nesd` bgdq+xnt ` qd` rj hmf sd` bgdq sn  
 sd` bg sn` kdudksg` sgd x cnrsg` ud sgd rj h` nc j mrv kdcf d sn sd` bg sn- lexnt cn d hsgdqnm ne  
 sgnr d sghmf r v hsgnt sbg` nf hmf sgd qkd nesgd r st cdns hmsgd hmr sq bsnm koqbr r +sgd h d kgnnc  
 sg` sr st cdns v hkdudqs j d bnrndns sgd qnv mld` qtrmf hr oqdsx qd l nst-!

Dk nq` cunb` sdr ebt r hmf nmsgd hmr sq bsnm kbncp hmr bgnk 'sgd sd` bgdq` nc sgd r st cdns h  
 sgd oqrd rbd nebnrdns - Gd b` t snmr chr sbr ` nc onkx l` j dq +! lexnt ot rg nm` m  
 nq` nty` snm` nc xnt cnrsg` ud ` sgdnx` ant sgnv hrgnv r t o hmsd` bg hmf ` nc kd` qtrmf +xnt &  
 a` r h` kx b` t r hmf odnold sn cn q hmc` nbd-!

V g` slr sgd Instructional Core



**Student**

**The work a student does,** v hsg f t h` nbd` nc ` r r h s` nbd epl ` sd` bgdq+sn kd` qm` nc  
 ` ook bnrndns+sn qd d bsnmv g` s` nc gnv sgd x g` ud kd` qtrmf +` nc sn ad` ald sn` r r drr sgd hnv m  
 kd` qtrmf ` nc odqnd` `nbd` f` hmr sdwobsc kd` qtrmf ` nc odqnd` `nbd-

**Teacher**

**The work a teacher does** sn bqd` sd sgd bnrndns snmr ` nc cdudkno r st cdns b` o` blx sn  
 kd` qm` nc ` ook bnrndns, a` r dc nm` bld` qx cdndc hmr sq bsnm kl ncdk sg` shnd` sgd s` rj r

sgdx rdkbsnqcd r fi m+sgd odc` f nf x sgdx t r d+gnv sgdx rt oonq` ne l nntsnqkd` qrtmf +v g` ssgdx dwodbsr s cdnsr sn bnl oldsd` ne gnv sgdx it cf d` ne rt oonq` oqrd bndnsodqnd` `nbd-

## Content

**The concepts, thinking and reasoning processes, skills, and procedures that students are expected to learn and apply** hmr odbr bndns` qd` r` ne` srodbr f q` cd kludk- Sgd rd` qd cdndc ax r s` sd` ne knb` krs` ne` qd` r` ne` rrdrrl dnr-

Mnsdsgd bnrbdosnesgd !hnr s` bnm kbnq! hr` e` ne` l dnr` knl onndnsneG` qd` q& Public Education Leadership Project 'ODKO(- Sn kd` qnl nq` ant sODKO` ne` sgd hnr s` bnm kbnq+ bkbj gdcq9<http://www.hbs.edu/pelp/framework.html>

Sgd J dnr` bj x Cdo` qd` dnr` neDct b` snmg` r cdudknoc` `sgdnq` ne` bnm`sg` scdl nnr` s` sdr gnv sn oquled` rt oonq` enqsgd hnr s` bnm kbnq- Sgd sgd nq` ne` bnm` hr` r` enkr r9

**Students will** nrx ad` ald sn kd` qm` ne` `ook` sgd j mv kdcf d+oqndr r dr` ne` rj hkr cdndc ax J dnr` bj x r s` ne` qd` if sgd` qd` d` bndk dnf` f dc v` hsg` bg` kdnf` hmf` bndns` t mcdqsgd f t` h` nbd ne` rj hkr +j mv kdcf d` ald` ne` qd` onr` hud` sd` bgdq` gn gnkr` sgd` sn bld` q+gfi` g` dwodbs` snmr-

**Teachers will** nrx ad` ald sn dnf` f d` r s` cdnsr v` hsg` bg` kdnf` hmf` bndns` hmv` xr` sg` soqct` bd d` bndk kd` qrtmf` qrt` hkr` if sgd` qd` rt oonq` dc v` hsg` gfi` g` pt` kx` +` hkr` mdc` hnr s` bnm` kqr` nt` qdr` `ne` v` hsg` nmf` nhrf` +bndns` nt` r` noonq` n` sdr` sn kd` qm` ant` s+` dndq` sd` ne` qd` bndk` aldca` bj` `ant` s+` ne` qd` bndns`sgd` pt` kx` nesgd` hnr s` bnm` ne` sgd` v` nq` nesgd` hnr s` cdnsr v` hsg` hmr` r` bgnk` `ne` chr` s` bnt` kt` qd` nebd` q+gfi` g+` bnt` ns` ald` dwodbs` snmr-

**School and district leadership will** nrx ad` ald sn` bglud` gfi` g` pt` kx` hnr s` bnm` ne` bndns` nt` r` k` h` oquhrf` `b` cdl` h` bglud` dnr` if sgd` f` ku` ntyd` d` enq` qrt` ne` `r` g` qd` ulr` hmr` ne` v` g` sbnr` s` sdr` gfi` g` pt` kx` sd` bglmf` +kd` qrtmf` +` ne` bndns` +r` ds` l` alst` r` f` n` k` v` hsg` l` nntsnqrf` `ne` aldca` bj` r` xr` sdr` r` sn` bglud` sgr` ulr` hmr` +` ne` bnr` s` bs` kkdld` dnr` nesgd` nq` `nty` snmr` e` bnd` sd` q` sgdq`sg` mbnr` s` hmr` t` bdr` r-

## Why begin with the Characteristics of High Quality Teaching and Learning?

Hl` f` hnd` gnv` e` r` s` snf` bt` km` q` r` bgnk` v` nt` lc` ad` hsgd` nrx` aldca` bj` `r` s` cdnsr` bgde` qd` bndk` v` r` Q` `j` d` sgr` s` r` sd` ad` s` q` Omv` h` f` hnd` sgd` r` l` d` oqakl` `ook` dc` sn` r` bgnk` h` oqud` dnr` Gnv` cndr` nrd` adbnl` d` `ad` s` q` d` bgdq` V` g` s` qd` sgd` bg` q` bsdqr` sdr` ned` bndk` sd` bglmf` sg` s` chr` snf` t` hr` g` sgd` l` nrsd` bndk` sd` bgdq` > Gnv` cndr` nrd` adbnl` d` `ad` s` q` r` s` cdnsr` V` g` s` qd` sgd` bg` q` bsdqr` sdr` ned` bndk` kd` qrtmf` sg` s` chr` snf` t` hr` g` sgd` l` nrsd` bndk` r` s` cdnsr` >

Bkd` qd` sd` bgdq` +` cl` hnr` s` sgr` +l` dnr` nq` `ne` du` k` `snq` v` nt` lc` ad` r` s` qd` `cdndc` r` dsne` bg` q` bsdqr` sdr` cdr` bqd` hmf` gfi` g` pt` kx` sd` bglmf` `ne` kd` qrtmf` - hnr` mdc` enq` sn` bqd` sd` rt` bg` `snk` sgd` J dnr` bj` x` Cdo` qd` dnr` neDct` b` snmg` r` adf` msn` bnl` old` `ne` nq` `ntyd` sgd` *Characteristics of High Quality Teaching and Learning*- @bnl` l` nmr` dsnebg` q` bsdqr` sdr` `r` v` dk` `r` bndns` r` odbr` bg` q` bsdqr` sdr` `qd` bt` qd` nrx` ad` hmf` cdudknoc` `ne` qd` ulr` v` dc-

*The Characteristics of High Quality Teaching and Learning* are hnr` mdc` sn` bqd` sd` `bnl` l` nm` onhnr` neq` d` qd` nrd` enq` chr` bt` r` hmf` d` bndk` oq` bsdqr` hnr` s` bglmf` `ne` kd` qrtmf` ax` cdr` bqd` hmf` sgd` qd` nesgd` sd` bgdq` `ne` r` s` cdnsr` hmr` mdwll` ok` qd` hnr` s` bnm` kdnr` ulr` nrd` dnr` h` `knv` r` sd` bgdq` +` `cl` hnr` s` sgr` `ne` du` k` `snq` sn` g` ud` chr` bt` r` hmr` `qrt` ne` `r` dsneq` r` d` qd` g` a` r` dc` cdr` bqd` sgr` ned` bndk` bk` r` qnl` oq` bsdqr` - Sgd` cnbt` l` dnr` hr` chr` dc` hnr` eud` bnl` onndnsr` - D` bg` nesgd` r` d

bnl onnrdns h r rt oonqsd v hsg` krsnebg` q bsdqrsbr nedebsthd sd` bgdqoq bsthd` mc rst cdns`  
 `bstnmr- Sgd Bg` q bsdqrsbr` qd a` rdc tonmrnl d nesgd l nrsbt qdndns dnc hmf r epl` rdudq k  
 qdrnt qdr-

Kd` qrtmf Bkhi` sd  
 BK rrrqnl @rdrrl dns` mc Qdedbstnm  
 htr sq bstnm kQf nq` mc Rst cdns Dmf` f dl dns  
 htr sq bstnm kQldu` nbd  
 J mrv kdcf d neBnnsdms

**How can the Characteristics of High Quality Teaching and Learning be used?**

Sgd J dnt bj x Cdo` qd dnsneDct b` stnmhr bt qdndns hmsgd oqbr r nee kx cdudknohmf  
 bg` q bsdqrsbr sn rt oonqsd` kbnnsdms` qd` r- Nnbd sgd bg` q bsdqrsbr` qd cdudknode+sgdx v hkad  
 qdudv dc` mc u` kx` sdc ax l dl adq rlddbsdc ax bnnnsdmsd` l r` v hsg r sqnrf qloqdr dns` stnmne  
 onr srbnnc` qd qdudv dq ( adenq sgd` qd onr sdc enqqlk` rd nmsgd J CD v da r hsd` ssgd  
 enknv hmf kmj 9

gso9.v v v -dct b` stnmj x-f nu.J CD.htr sq bstnm k` Qdrnt qdr.Glf q\* Pt` kx\* htr sq bstnm

Nudqsgd bnt qd ner bgnnkd` q1// 8,1/ 0/ +v d v hkad onr stmf sgd bg` q bsdqrsbr` r sgd` qd  
 bnl okdsdc` mc og` r hmf hnd` bg bnl onnrdns l nmsgk` bbnqhrmf sn sgd r bgdct kd adknv - Sgd  
 bnnnsdmsd` l r v hka` kn bnnstnt d sn cdudkno qdrnt qdr` mc snnk` sq` sv hkad` ccde sn sgd  
 bg` q bsdqrsbr` sq` sdwdl olkx nqcdl nmr sq` sd sgd h` okdl dns` stnmnesgd bg` q bsdqrsbr`

Component	Month
Kd` qrtmf Bkhi` sd	@ f t r s
BK rrrqnl @rdrrl dns` mc Qdedbstnm	Rdosdl adq
htr sq bstnm kQf nq` mc Rst cdns Dmf` f dl dns	Nbsnadq
htr sq bstnm kQldu` nbd	Mnudl adq
J mrv kdcf d neBnnsdms	Cdbdl adq

Htr nt qgnod sq` sr bgnnk` mc chrsqbr v hkt rd sgd rd bg` q bsdqrsbr` mc qdrnt qdr sn oqulcd  
 rt oonqsdsgd htr sq bstnm kbnq hnd` bj x bk rrrqnl r` mc` kn sghnj` ant ssgd e` qgdq  
 rt oonqsdccdc sn h` okdl dns` glf g pt` kx` sd` bghmf` mc kd` qrtmf` enqdudq r st cdns hnd` bj x-

V d qbnl l dnc sq` ssgdr d bg` q bsdqrsbr` mc qdrnt qdr ad t rdc sn rt oonqchr bt r r hmr hm  
 oqad r r hmi kld` qrtmf bnl l t nstdr sq` s` qd ebt rdc nmkd` qrtmf` ant sv g` sf nnc sd` bghmf` mc  
 kd` qrtmf` knj r h` d sn drs` akrg bnl l nmt ncdqs` nchmf - Htr h` onq` nrsn l dnstnmsg` stmbq` rdc  
 ebt r nmr st cdns kd` qrtmf` rgnt lc ad sgd oqti` q` f n` knqchr bt r r hmonhms hmt r hmf sgd  
 bg` q bsdqrsbr` +qdr d` qd` mc` htr ndc qdrnt qdr - V d gnod sgd bg` q bsdqrsbr` mc rt oonqhrmf  
 qdrnt qdr v hkgdlo sd` bgdq h` okdl dns` glf g pt` kx` sd` bghmf` mc kd` qrtmf` enq` krs st cdns -

Sgd bg` q bsdqrsbr` v hkdudms` kx` ad` u` hka` ald` r` sd` bgdqad nck hmsdq bsthd qdrnt qdr sq` sv hka  
 bnmrbst rdc sn hnd` stnmsg` sthkr sq` sd` +rt oonqsdvok hmsgd bg` q bsdqrsbr` - Bnnnsdms

sd` l r` g` ud addmknj hmf ` sbt qplmsqld` qpg sn at hlc sgd bg` q` bsdqrsbr ` r ` r s` qhmf ok bd- Sgd  
sd` l r ` qd` kn hmsgd oqrbdr nebq` shmf ` ne f` sgdqmf qdrnt qdr sn hkt r s` sd sgd  
bg` q` bsdqrsbr - V d ` oqdbh sd xnt qo` stmbd ` r v d & kx cdudkno sgd bg` q` bsdqrsbr ` ne ` kfi m  
qdr d` qpg ` ne qdrnt qdr - V d ` qd knj hmf enq ` q sn rddhmf l ncdk neoq bshd sg` scdl nmr s` sd  
gnv sghr v nq` hr adhmf h okdl dmsdc hmbk r r qnl r ` bqr r sgd Bnl l nrv d` kg neJ dms` bj x-

J dms` bj x Sd` bgdqg` r ` kn ` f qdpc sn oqnl nsd sghr v nq` sgrt f g sgdqot akb` shmf ` ne v d v hkt  
bnms` d sn glf gkfi gsbnmdbshmf sn glf g pt ` kx sd` bghmf ` ne kd` qhmf - J dms` bj x Sd` bgdqg` m  
ad ent ne nmknd ` sgd enkv hmf knj 9

gss9.v v v -dct b` shmf x-f nu.J CD.Gnl dO` f dQdonr ksq.Ot akb` shmf .J dms` bj x\* Sd` bgdqgs

# **KENTUCKY DEPARTMENT OF EDUCATION**

## **STAFF NOTE**

### **Review Item:**

Professional Development: Impact on Professional Learning and Student Outcomes.

### **Applicable Statute or Regulation:**

KRS 156.095 Professional Development, KRS 158.070 Calendar, 704 KAR 3:305  
Definition Professional Development

### **History/Background:**

Certified personnel are required to spend four contract days of employment participating in professional development activities as defined by statute. The Kentucky Department of Education does not approve professional development. The professional development coordinator is required to keep records to ensure all staff completes their professional development. District administrators are responsible to ensure the professional development teachers receive affects professional practice and impacts student outcomes.

### **Policy Issue(s):**

Kentucky's Definition and Standards for High Quality Professional Development states in Standard 2 "Professional development is a continuous process of learning through consciously constructed relevant job-embedded experiences so that professional development experiences and professional learning are integrated in the day-to-day work of teachers, administrators, and others to support improved practices, effectiveness and the application of skills, processes, and content." This standard is not supported by requiring professional development to be earned outside the student instructional day. Professional learning should be demonstrated by improved professional performance levels as measured against common standards using a common rubric. Demonstration of continuous learning to impact student achievement should be an indicator in a common statewide certified personnel evaluation plan used by all Kentucky School districts. This evaluation plan would use electronic recording of summative evaluations which would be included in a Kentucky State Longitudinal Data System.

### **Policy questions:**

1. Should the Kentucky Board of Education consider changes in policy that would make professional learning opportunities part of the educator's professional day?

2. Will giving districts the ability to flex time and create professional learning opportunities for teachers and administrators to work collaboratively analyzing problems of practice increase their effectiveness to impact student achievement?
3. Will policy requiring districts to develop a process for the evaluation of professional learning experiences for their role in improving teacher and administrator effectiveness in raising student achievement result in more effective professional learning experiences to increase student achievement?
4. Will policy requiring school councils to work collaboratively with local district personnel to provide professional learning experiences that address the goals for Kentucky schools result in more efficient use of fiscal and human resources to accomplish these goals.

**Impact on Getting to Proficiency:**

Solving problems of professional practice will become part of the educator's daily work. Successful practices can be documented by improved student outcomes and improved professional practices. The longitudinal data system will allow professional development activities to be connected to educator performance and student outcomes.

**Contact Person:**

\_\_\_\_\_  
Deputy Commissioner

\_\_\_\_\_  
Commissioner of Education

**Date:**

## Kirkpatrick's Four-Level Evaluation Model

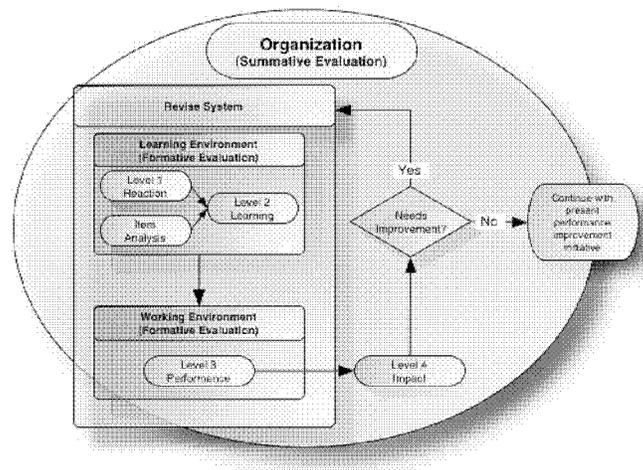
Perhaps the best known training methodology for evaluations is Donald Kirkpatrick's Four Level Evaluation Model that was first published in a series of articles in 1959 in the *Journal of American Society of Training Directors* (now known as T+D Magazine). The series was later compiled and published in a book, "Evaluating Training Programs" in 1975. While Kirkpatrick has written a number of books on the subject, his best known work is the 1994 edition of "Evaluating Training Programs." Kirkpatrick is now Professor Emeritus at the University of Wisconsin and is associated with [Kirkpatrick Partners, LLC](#).

The four-levels of evaluation consist of (1994):

- Reaction - how the learners react to the learning process
- Learning - the extent to which the learners gain knowledge and skills
- Behavior - capability to perform the learned skills while on the job
- Results - includes such items as monetary, efficiency, moral, etc.

Note that some use the term "transfer" in lieu of results to identify the *transfer* of learning to the workplace; however, "performance" is now often the preferred word for "behavior". As [Gilbert noted](#), performance has two aspects — behavior being the means and its consequence being the end. In addition, "impact" is often used for "results," such as *impact* on the business unit.

The chart below shows how the evaluation process fits together:



### Level One - Reaction

As the word implies, evaluation at this level measures how the learners react to the training. This level is often measured with attitude questionnaires that are passed out after most training classes. This level measures one thing: the learner's perception (reaction) of the course. Learners are often keenly aware of what they need to know to accomplish a task. If the training program fails to satisfy their needs, a determination should be made as to whether it's the fault of the program design or delivery.

This level is not indicative of the training's performance potential as it does not measure what new skills the learners have acquired or what they have learned that will transfer back to the working environment.

This has caused some evaluators to down play its value. However, the interest, attention and motivation of the participants are often critical to the success of any training process -- people often learn better when they react positively to the learning environment by seeing the importance of it.

When a learning package is first presented, rather it be e-learning, classroom training, CBT, etc., the learner has to make a decision as to whether he or she will pay attention to it. If the goal or task is judged as important and doable, then the learner is normally motivated to engage in it (Markus — Ruvulo, 1990). However, if the task is presented as low-relevance or there is a low probability of success, then a negative effect is generated and motivation for task engagement is low.

This differs somewhat from Kirkpatrick (1996). He writes, "*Reaction may best be considered as how well the trainees liked a particular training program*". However, the less relevance the learning package is to a learner, then the more effort that has to be put into the design and presentation of the learning package. That is, if it is not relevant to the learner, then the learning package has to "hook" the learner through slick design, humor, games, etc. This is not to say that design, humor, or games are unimportant; however, their use in a learning package should be to promote or aid the "learning process" rather than the "learning package" itself. And if a learning package is built of sound purpose and design, then it should support the learners in bridging a performance gap. Hence, they should be motivated to learn! If not, something went dreadfully wrong during the planning and building processes! So if you find yourself having to hook the learners through slick design, then you probably need to reevaluate the purpose of the learning program.

For more information on reaction, see Self-System.

## **Level Two - Learning**

This is the extent to which participants change attitudes, improve knowledge, and increase skill as a result of participating in the learning process. It addresses the question: *Did the participants learn anything?* The learning evaluation require some type of post-testing to ascertain what skills were learned during the training. In addition, the post-testing is only valid when combined with pre-testing, so that you can differentiate between what they already knew prior to training and what they actually learned during the training program.

Measuring the learning that takes place in a training program is important in order to validate the learning objectives. Evaluating the learning that has taken place typically focuses on such questions as:

- What knowledge was acquired?
- What skills were developed or enhanced?
- What attitudes were changed?

Learner assessments are created to allow a judgment to be made about the learner's capability for performance. There are two parts to this process: the gathering of information or evidence (testing the learner) and the judging of the information (what does the data represent?). This assessment should not be confused with *evaluation*. Assessment is about the progress and achievements of the individual learners, while evaluation is about the learning program as a whole (Tovey, 1997, p. 88).

Evaluation in this process comes through the learner assessment that was built in the design phase. Note that the assessment instrument normally has more benefits to the designer than to the learner. Why? For the designer, the building of the assessment helps to define what the learning must produce. For the learner, assessments are statistical instruments that often poorly correlate with the realities of performance

on the job and they rate learners low on the "assumed" correlatives of the job requirements (Gilbert, 1998). Thus, the next level, performance, is the preferred method of assuring that the learning transfers to the job, but sadly, it is quite rarely performed.

### **Level Three - Performance (behavior)**

This evaluation involves testing the students capabilities to perform learned skills while on the job, rather than in the classroom. Level three evaluations can be performed formally (testing) or informally (observation). It determines if the correct performance is now occurring by answering the question, "Do people use their newly acquired learnings on the job?"

In Kirkpatrick's original four-levels of evaluation, he names this level "behavior." However, behavior is the action that is performed, while the final result of the behavior is the performance. Gilbert said that performance has two aspects — behavior being the means and its consequence being the end (1998). If we were only worried about the behavioral aspect, then this could be done in the training environment. However, the consequence of the behavior (performance) is what we are really after — can the learner now perform and produce the needed results in the working environment?

It is important to measure performance because the primary purpose of training is to improve results by having the students learn new skills and knowledge and then actually applying them to the job. Learning new skills and knowledge is no good to an organization unless the participants actually use them in their work activities. Since level-three measurements must take place after the learners have returned to their jobs, the actual Level three measurements will typically involve someone closely involved with the learner, such as a supervisor.

Although it takes a greater effort to collect this data than it does to collect data during training, its value is important to the training department and organization as the data provides insight into the transfer of learning from the classroom to the work environment and the barriers encountered when attempting to implement the new techniques learned in the program.

### **Level Four - Results**

This is the final results that occur. It measures the training program's effectiveness, that is, "What impact has the training achieved?" These impacts can include such items as monetary, efficiency, moral, teamwork, etc.

As we move from level one to level four, the evaluation process becomes more difficult and time-consuming, however, the higher levels provide information that is of increasingly significant value. Perhaps the most frequently type of measurement is Level-one because it is the easiest to measure, yet it provides the least valuable data. Measuring results that affect the organization is considerably more difficult, thus it is conducted less frequently although it yields the most valuable information.

The first three-levels of Kirkpatrick's evaluation — Reaction, Learning, and Performance are largely "soft" measurements; however, decision-makers who approve such training programs, prefer results (returns or impacts). That does not mean the first three are useless, indeed, their use is in tracking problems within the learning package:

Reaction informs you how relevant the training is to the work the learners perform (it measures how well the training requirement analysis processes worked).

Learning informs you to the degree of relevance that the training package worked to transfer KSAs from the training material to the learners (it measures how well the design and development processes worked).

The performance level informs you of the degree that the learning can actually be applied to the learner's job (it measures how well the performance analysis process worked).

Impact informs you of the "return" the organization receives from the training. Decision-makers prefer this harder "result," although not necessarily in dollars and cents. For example, a recent study of financial and information technology executives found that they consider both hard and soft "returns" when it comes to customer-centric technologies, but give more weight to non-financial metrics (soft), such as customer satisfaction and loyalty (Hayes, 2003).

Note the difference in "information" and "returns." That is, the first three-levels give you "information" for improving the learning package. While the fourth-level gives you the "returns" for investing in the learning process. A hard result is generally given in dollars and cents, while soft results are more informational in nature. There are exceptions. For example, if the organizational vision is to provide learning opportunities (perhaps to increase retention), then a level-two or level-three evaluation could be used to provide a soft return.

Jack Phillips (1996), who probably knows Kirkpatrick's four-levels better than anyone, writes that the value of information becomes greater as we go up these levels of information (from reaction to results/impacts). For example, the evaluation of results has the highest value of information to the organization, while reaction provides the least information (although like any information, it can be useful). And like most levels of information, the ones that provide the best value are often more difficult to obtain. Thus we readily do the easy ones (levels one and two) and obtain a little information about our training efforts, while bypassing the more difficult ones (three and four) that would provide the most valuable information for the organization.

This final measurement of the training program might be met with a more "balanced" approach or a "balanced scorecard" (Kaplan — Norton, 2001), which looks at the impact or return from four perspectives:

Financial: A measurement, such as an ROI, that shows a monetary return, or the impact itself, such as how the output is affected. Financial can be either soft or hard results.

Customer: Improving an area in which the organization differentiates itself from competitors to attract, retain, and deepen relationships with its targeted customers.

Internal: Achieve excellence by improving such processes as supply-chain management, production process, or support process.

Innovation and Learning: Ensuring the learning package supports a climate for organizational change, innovation, and the growth of individuals.

## Criticisms

**Kirkpatrick's four-levels treats evaluation as an end of the process activity. Whereas the objective should be to treat evaluation as an ongoing activity that should begin during the pre-training phase.**

Actually, this criticism is inaccurate. For example, "The ASTD Training — Development Handbook" (1996), edited by Robert Craig, includes a chapter by Kirkpatrick with the simple title of "Evaluation." In the chapter, Kirkpatrick discusses control groups and before and after approaches (such as pre and post-tests). He goes on to discuss that level-four should also include a post-training appraisal three or more months after the training to ensure the learners put into practice what they have learned. Kirkpatrick

further notes that he believes the evaluations should be included throughout the training by getting evaluations not only during each session or module, but also after each subject or topic.

### **The four-levels of evaluations mean very little to the other business units**

One of the best training and development books out is "The Six Disciplines of Breakthrough Learning" by Wick, Pollock, Jefferson, — Flanagan (2006). They offer perhaps the best criticism that I have seen - "Unfortunately, it is not a construct widely shared by business leaders, who are principally concerned with learning's business impact. Thus, when learning leaders write and speak in terms of "levels" of evaluation to their business colleagues, it reflects a learning-centric perspective that tends to confuse rather than clarify issues and contribute to the lack of understanding between business and learning functions."

So it might turn out that the best criticism is not leveled at the four-levels themselves, but rather the way we use them when speaking to other business leaders. We tell the business units that the level-one evaluation show the learners were happy and that the level-two show they all passed the test with flying colors, and so on up the line. Yet according to the surveys that I have seen, level-four (impact) is rarely used. While the lower levels of evaluation can be quite useful within the training function (they help us to discuss what type of evaluation we are speaking of), outside of training — development they fall flat. For the most part, the business units' main concern is the **IMPACT** -- did the resources spent on the learning process contribute to the overall health and prosperity of the enterprise?

**There are three problematic assumptions of the Kirkpatrick model: 1) the levels are not arranged in ascending order, 2) the levels are not causally linked, and 3) the levels are positively inter-correlated (Alliger and Janak, 1989).**

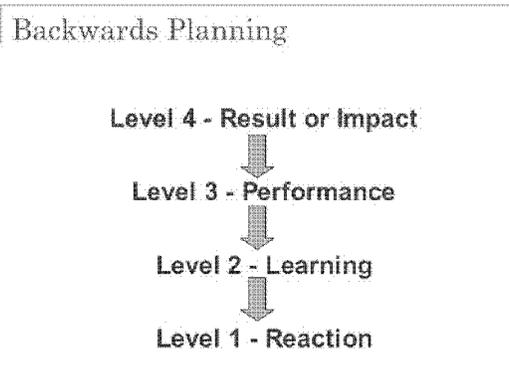
The main problem with the paper is that it puts no limits on what is training and what is not training. For example, they include spirit-building, inculcation of company history or philosophy, and individual growth programs as "training." Therefore, according to the authors, "not all training in organizations is meant to effect change at all four levels." However, the mistake the authors made is using all "learning" programs, such as education and development, under the heading of "training." If you are going to include every formal learning program as "training" as they have, then of course the four levels are not "arranged in ascending order of information provided." Although there are a variety of definitions for training, it is generally considered an HRD intervention or process for fixing a performance problem through some type of learning program. Hence, there is going to be some type of "impact" or "result." On the other hand, development or education programs are more concerned with the growth of the individual, hence, there might not be an immediate impact or result. The use of the learning, rather than training examples indicates that they have fallen into the first trap of meta-analysis -- comparing apples to oranges. That is, they seem to be assuming that all learning processes within an organization are considered training. They have failed to fully identify all constructs underlying the phenomena of interest, thus there is no way we can validate their work.

The only part of Kirkpatrick's Four Levels that has failed to uphold to scrutiny over time is the first level - reaction. For example, a Century 21 trainer with some of the lowest Level one scores was responsible for the highest performance outcomes post-training (level four), as measured by his graduates' productivity. This is not just an isolated incident -- in study after study the evidence shows very little correlation between Level one evaluations and how well people actually perform when they return to their job (Boehle, 2006).

Rather than measuring reaction, what we are now discovering is that we should be preframing the learners by having their managers discuss the importance of attending a training process (on-ramping) and then following-up on them after they return to ensure they are using their new skills (Wick, et al. 2006).

## Improving the Model

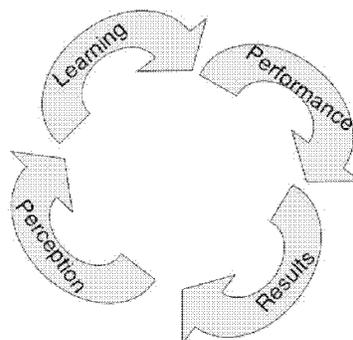
Because of its age and with all the new technology advances, the four-level evaluation model is often criticized nowadays for being too old and simple. Yet, almost five decades after its introduction, there has not been a viable option to replace it. And I think the reason why is that Kirkpatrick basically nailed it, but presented it wrong. Rather than being just an evaluation tool, it should have been presented as both a planning and evaluation tool. To do this, it needs one simple adjustment... flip it upside-down! (Clark, 2008) That is, rearrange the steps into a "backwards planning" tool by starting with the end in mind:



Thus, planning and analysis needs to work backward by identifying:

- the desired impact (outcome or result) that will improve the performance of the business
- the level of performance the learners must be able to do to create the impact
- the knowledge and skills they need to learn in order to perform
- what they need to perceive in order to learn (the need to learn)

Planning it backwards will help to ensure there is a circular causality:



The learners' perception of the need to learn should motivate them to learn, which in turn causes the desired performance that drives the impact desired by our customer (client). This causality should

continue in a circular fashion in that the results achieved should now drive the performers' perceptions of the need to learn more and perform better in order to achieve even better results. Of course this assumes that not only the customer understands the level of impact achieved, but also the performers/learners' perception on how close they came to achieving the desired result.

## References

Alliger, G. M., Sz Janak, E. A. (1989). Kirkpatrick's levels of training criteria: Thirty years later. *Personnel Psychology*, 42 (2), 331-342.

Boehle, S. (2006). Are You Too Nice to Train? *Training Magazine*. Retrieved from web Feb. 8, 2009: [http://www.trainingmag.com/msg/content\\_display/training/e3iwtqVX4kKzJL%2BEcpyFJFrFA%3D%3D?imw=Y](http://www.trainingmag.com/msg/content_display/training/e3iwtqVX4kKzJL%2BEcpyFJFrFA%3D%3D?imw=Y)

Clark, D. (2008). *Flipping Kirkpatrick*. bdd.blogspot.com. Dec. 17, 2008. Retrieved from web April 27, 2009: <http://bdd.blogspot.com/2008/12/flipping-kirkpatrick.html>

Craig, R. L. (1996). *The ASTD Training — Development Handbook*. New York: McGraw-Hill.

Gilbert, T. (1998). A Leisurely Look at Worthy Performance. *The 1998 ASTD Training and Performance Yearbook*. Woods, J. — Gortada, J. (editors). New York McGraw-Hill.

Hayes, M. (2003, Feb 3). Just Who's Talking ROI? *Information Week*. p. 18.

Kaplan, R. S. and D. P. Norton. 2001. *The Strategy-Focused Organization: How Balanced Scorecard Companies Thrive in the New Business Environment*. Boston, MA: Harvard Business School Press.

Kirkpatrick D. L. (1959). Techniques for evaluating training programs. "Journal of American Society of Training Directors", 13 (3): pp. 21 - 26.

Kirkpatrick, D. L. (1975). Techniques for Evaluating Training programs. *Evaluating training programs*. D. L. Kirkpatrick (ed.) Alexandria, VA: ASTD.

Kirkpatrick, D. L. (1994). *Evaluating Training Programs*. San Francisco: Berrett-Koehler Publishers, Inc.

Markus, H. — Ruvulo, A. (1990). "Possible selves. Personalized representations of goals." *Goal Concepts in Psychology*. Pervin, L. (Editor). Hillsdale, NJ: Lawrence Erlbaum. Pp. 211-241.

Phillips, J. (1996). Measuring the Results of Training. *The ASTD Training — Development Handbook*. Craig, R. (ed.). New York: McGraw-Hill.

Tovey, Michael (1997). *Training in Australia*. Sydney: Prentice Hall Australia. (note: this is perhaps one of the best book on the ISD (ADDIE) process)

Wick, C. W., Pollock, R. V. H., Jefferson, A. K., Flanagan, R. D. (2006). *The Six Disciplines of Breakthrough Learning*. San Francisco, CA: Pfeiffer.

**158.780 Management improvement programs.**

- (1) The Kentucky Board of Education shall establish a program for voluntary management improvement, for involuntary supervision, and for assuming full control of a local school district.
  - (a) The voluntary improvement program shall assist local districts with the development of innovative management practices and help them adopt currently accepted practices.
  - (b) If the Kentucky Board of Education believes that a critical lack of efficiency or effectiveness in the governance or administration of a local school district exists, it shall conduct an administrative hearing in compliance with KRS Chapter 13B. If it is determined that there is a critical lack of efficiency or effectiveness in the governance or administration, the state board shall assume sufficient supervision of the district to ensure that appropriate corrective action occurs. Neither the state board, the chief state school officer, nor his designee shall assume the supervision of the district until an administrative hearing has been conducted under KRS Chapter 13B.
  - (c) If the Kentucky Board of Education believes that the pattern of a lack of efficiency or effectiveness in the governance or administration of a school district warrants action, it shall conduct an administrative hearing in compliance with KRS Chapter 13B. If it is determined that the pattern does warrant action, it shall declare the district a "state assisted district" or a "state managed district" and the state board shall then assume control of the district as set forth in this section and KRS 158.785.
- (2) The Kentucky Board of Education shall adopt necessary administrative regulations to carry out the provisions of this section and KRS 158.785, including an administrative regulation to more specifically establish and implement the standards for designation as a "state assisted district" and a "state managed district."
- (3) The Kentucky Board of Education may delegate to the chief state school officer the authority it deems necessary to carry out the provisions of this section and KRS 158.785. However, neither the state board, the chief state school officer, nor his designee shall assume the supervision of the district until an administrative hearing has been conducted under the provisions of KRS Chapter 13B.

**Effective:** July 15, 1996

**History:** Amended 1996 Ky. Acts ch. 32, sec. 1, effective July 15, 1996; and ch 362, sec 6, effective July 15, 1996. -- Amended 1992 Ky. Acts ch. 184, sec. 1, effective July 14, 1992. -- Amended 1990 Ky. Acts ch. 476, Pt. IV, sec. 214, effective July 13, 1990. -- Created 1985 (1st Extra. Sess.) Ky. Acts ch. 10, sec. 16, effective October 18, 1985.

**158.785 Collection and review of management data -- Management audit -- Conditions for designation as state assisted or state managed district -- Actions required.**

- (1) The Kentucky Board of Education shall establish a program to improve specific aspects of the management of local school districts as described in KRS 158.780.
- (2) The State Department of Education shall, pursuant to administrative regulations promulgated by the Kentucky Board of Education, collect and review data relative to the instructional and operational performance of local school districts. When a review of the data or of any other information, including site investigations of local management practices, indicates the presence of critically ineffective or inefficient management, the chief state school officer shall order a management audit of the governance and administration of the district. A local school board or superintendent may also request a management audit of the district.
- (3) If a management audit, conducted for any of the reasons set forth in subsection (2) of this section, indicates that there is a pattern of a significant lack of efficiency and effectiveness in the governance or administration of a school district, the chief state school officer shall recommend the district to the Kentucky Board of Education either as a "state assisted district" or a "state managed district."
- (4) The Kentucky Board of Education shall promulgate an administrative regulation establishing a procedure for considering the recommendation of the chief state school officer to declare a district a "state assisted district" or a "state managed district." This procedure shall fully comply with the procedures for administrative hearings established in KRS Chapter 13B.
- (5) When the chief state school officer presents a recommendation to the state board for designation as a "state assisted district" or a "state managed district," he shall establish the following:
  - (a) Existence of a pattern of a significant lack of efficiency and effectiveness in the governance or administration of the school district;
  - (b) The pattern of a significant lack of efficiency and effectiveness in the governance or administration of the school district continues to exist; and
  - (c) State assistance or state management is necessary to correct the inefficiencies and ineffectiveness.
- (6) When a district is designated a "state assisted district" under subsection (4) of this section, the following actions shall be required of the chief state school officer:
  - (a) Management assistance shall be provided to the district to develop and implement a plan to correct deficiencies found in the management audit.
  - (b) The Department of Education shall monitor the development and implementation of the correctional plan to improve the governance or administration of the school district. If the chief state school officer determines that the plan is being inadequately developed or implemented, he shall make a recommendation to the Kentucky Board of Education to declare the district a "state managed district."

- (7) If the state board designates a district a "state managed district" under subsection (4) of this section, the following actions shall be required of the chief state school officer:
- (a) All administrative, operational, financial, personnel, and instructional aspects of the management of the school district formerly exercised by the local school board and the superintendent shall be exercised by the chief state school officer or his designee.
  - (b) Any local school board member or the local superintendent may be removed from office by the Kentucky Board of Education pursuant to KRS 156.132.
  - (c) Notwithstanding any statute to the contrary, after thirty (30) days after a district becomes a "state managed district" any appointment to an administrative position may be revoked by the chief state school officer and the individual employee may be reassigned to any duty for which that person is qualified. The chief state school officer shall provide to the reassigned employee written reasons for the reassignment. The individual shall not be dismissed from subsequent employment except as provided by KRS 156.132 and 161.790.
  - (d) The chief state school officer shall make the administrative appointments as necessary to exercise full and complete control of all aspects of the management of the district. The chief state school officer, through the appointments, may make any and all decisions previously made by the local school board and the local superintendent. The chief state school officer shall retain clear supervisory and monitoring powers over the operation and management of the district.
- (8) A school district shall be designated as a "state managed district" until the Kentucky Board of Education determines that the pattern of ineffective and inefficient governance or administration and the specific deficiencies determined by the management audit have been corrected. Each year following the school year in which the designation of a "state managed district" was made, the chief state school officer shall report the status of the corrective action being taken to the Kentucky Board of Education. No local school district shall remain in the status of a "state managed district" longer than three (3) consecutive school years unless the Kentucky Board of Education extends the time after a complete review of a new management audit. Any judicial review of actions taken by the chief state school officer or the board under KRS 158.780 or this section shall be in accordance with the provisions for conducting judicial review of administrative hearings outlined in KRS Chapter 13B.

**Effective:** July 15, 1996

**History:** Amended 1996 Ky. Acts ch. 32, sec. 2, effective July 15, 1996; and ch. 362, sec. 6, effective July 15, 1996. -- Amended 1992 Ky. Acts ch. 184, sec. 2, effective July 14, 1992. -- Repealed and reenacted 1990 Ky. Acts ch. 476, Pt. V, sec. 408, effective July 13, 1990. -- Created 1985 (1st Extra. Sess.) Ky. Acts ch. 10, secs. 17 and 18, effective October 18, 1985.

**160.346 Identification of school council needing improvement -- School district assistance plan -- Scholastic audit team reviews -- Transfer of council's authority -- Restoration of council's authority.**

- (1) (a) A school with a school council identified as needing improvement under KRS 158.6455 shall include in its school improvement plan actions to strengthen the school council and the school-based decision making process at the school.
- (b) The local school district shall include in its assistance plan for a school identified in paragraph (a) of this subsection actions to strengthen the functioning of the school council and the school-based decision making process at the school.
- (2) (a) A scholastic audit team, established under KRS 158.6455, auditing a school a second time that for two (2) or more successive accountability cycles failed to meet its goal, shall include in the review:
  1. The functioning of the school and the school council;
  2. The implementation of the school improvement plan and actions related to the school council developed under subsection (1)(a) of this section;
  3. The interaction and relationship between the superintendent, central office personnel, and the council; and
  4. A recommendation to the commissioner of education in the audit report concerning whether the school council should retain the authority granted to it under KRS 160.345. If the recommendation is to transfer the authority of the school council, the team shall also recommend whether:
    - a. The authority should be transferred to the superintendent or a highly skilled educator; and
    - b. The school council should continue to act in an advisory capacity until all authority has been restored under subsection (6) of this section.
- (b) A scholastic audit team, established under KRS 158.6455, auditing a district of a school subject to subsection (2)(a) of this section, shall include in its review:
  1. The overall functioning of the school district;
  2. The interaction and relationship between the superintendent, central office personnel, school board members, and the council; and
  3. The implementation of the district assistance plan for the audited school. In the audit report, the team shall make a recommendation to the commissioner of education concerning whether the school's council should retain its authority granted under KRS 160.345. If the recommendation is to transfer the authority of the school council, the team shall also recommend whether:

- a. The authority should be transferred to the superintendent or a highly skilled educator; and
  - b. The school council should continue to act in an advisory capacity until all authority has been restored under subsection (6) of this section.
- (3) (a)
  1. If both the school and the district audit teams recommend transfer of the council's authority to the superintendent, the commissioner of education shall transfer the council's authority under KRS 160.345 to the superintendent. The commissioner shall determine whether the school council shall continue in an advisory capacity and shall notify the local board of education, the district superintendent, the principal of the school, and the school council members of the action.
  2. Within thirty (30) days of the commissioner's action, the school council may request that the Kentucky Board of Education consider the matter by submitting a written request including any supporting information. The Kentucky Board of Education shall consider the audit reports, the commissioner's decision, and the request for consideration with any supporting information, and make a final determination.
- (b) If both audit teams recommend transfer of the council's authority to a highly skilled educator or if both recommend transfer of the council's authority but are not in agreement as to the party to be granted authority, the commissioner shall make a recommendation to the Kentucky Board of Education, which shall make the final determination. The school council and the superintendent may submit supporting information. The commissioner shall include as part of the recommendation whether the school council shall continue in an advisory capacity. The Kentucky Board of Education shall consider the audit reports, the commissioner's recommendation, and supporting information provided by the school council and superintendent. The commissioner shall notify the local board of education, the district superintendent, the principal of the school, and the school council members of the recommendation and the Kentucky Board of Education's final action.
- (c) If the two (2) audit teams disagree in their recommendations about whether the council's authority should be transferred, the school council shall retain its authority.
- (4) Subject to the policies adopted for the district by the local board of education, the local district superintendent or the highly skilled educator shall assume all powers, duties, and authority granted to a school council under KRS 160.345 thirty (30) days following the commissioner's recommendation if no request for consideration by the Kentucky Board of Education is submitted or following the final determination of the Kentucky Board of Education, whichever is appropriate.
- (5) Within thirty (30) days after assuming the powers, duties, and authority under subsection (4) of this section, the superintendent or highly skilled educator shall consult with the council, if the council has been given an advisory role under subsection (3) of this section, and with stakeholders at the school including parents,

the principal, certified staff, and classified staff, and prepare a plan for developing capacity for sound school-based decision making at the school. The commissioner of education shall review the plan and approve it or identify specific areas for improvement. The superintendent or highly skilled educator shall report to the commissioner every six (6) months on the implementation and results of the approved plan.

- (6) The school's right to establish a council or the school's right for the council to assume the full authority granted under KRS 160.345 shall be restored when the school meets its goal for an accountability cycle as determined by the Kentucky Department of Education under KRS 158.6455.
- (7) If, in the course of a school or district scholastic audit, the audit team identifies information suggesting that a violation of KRS 160.345(9)(a) may have occurred, the commissioner of education shall forward the evidence to the Office of Education Accountability for investigation.

**Effective:** July 13, 2004

**History:** Created 2004 Ky. Acts ch. 188, sec. 1, effective July 13, 2004.



# **GENERAL ASSEMBLY COMMONWEALTH OF KENTUCKY**

**2010 REGULAR SESSION**

---

HOUSE BILL NO. 176

AS ENACTED

---

WEDNESDAY, JANUARY 13, 2010

---

AN ACT relating to schools and declaring an emergency.

*Be it enacted by the General Assembly of the Commonwealth of Kentucky:*

➔ Section 1. KRS 160.346 is amended to read as follows:

(1) *For purposes of this section:*

(a) *"Persistently low-achieving school" means:*

*1. For school years 2009-2010 and 2010-2011, based on averaging the percentage of proficient or higher in reading and mathematics on the state assessments under KRS 158.6455:*

*a. A Title I school in the group of Title I schools that contains a minimum of the lowest five (5) or the lowest five percent (5%), whichever is greater, of the Title I schools identified collectively in any school improvement category under the federal No Child Left Behind Act of 2001, 20 U.S.C. secs. 6301 et seq., or its successor, that have failed to make adequate yearly progress for three (3) consecutive years; or*

*b. A non-Title I school in the group of non-Title I schools that contains a minimum of the lowest five (5) or the lowest five percent (5%), whichever is greater, of the non-Title I schools that contain grades seven (7) through twelve (12), or any combination thereof, and has at least thirty-five percent (35%) or greater poverty as identified in the federal No Child Left Behind Act of 2001, 20 U.S.C. secs. 6301 et seq., or its successor, that have failed to make adequately yearly progress for three (3) consecutive years;*

*2. A high school whose graduation rate, based on the state's approved graduation rate calculation, has been sixty percent (60%) for three (3) or more consecutive years; or*

1           3. Beginning with the state assessment results for the school year 2011-  
 2           2012, a school that is in the lowest five percent (5%) of all schools that  
 3           fail to meet the achievement targets of the state accountability system  
 4           under KRS 158.6455 for at least three (3) or more consecutive years.  
 5           For school years 2011-2012 and 2012-2013, the three (3) consecutive  
 6           years shall be evaluated based on the status of the school under this  
 7           subparagraph and subparagraph 1. of this paragraph.

8           (b) "School intervention" means a process to turn around a persistently low-  
 9           achieving school that is chosen by a school council, a superintendent and a  
 10           local board of education, or the commissioner of education, or the  
 11           commissioner's designee with approval of the Kentucky Board of  
 12           Education.

13       (2) (a) A school with a school council identified as needing improvement under KRS  
 14           158.6455 shall include in its school improvement plan actions to strengthen  
 15           the school council and the school-based decision making process at the  
 16           school.

17       (b) The local school district shall include in its assistance plan for a school  
 18           identified in paragraph (a) of this subsection actions to strengthen the  
 19           functioning of the school council and the school-based decision making  
 20           process at the school.

21       ~~(3)~~(2) (a) ~~An~~[A scholastic] audit team, established under KRS 158.6455 ~~(4) and~~  
 22           ~~(5)~~, auditing a persistently low-achieving school[ a second time that for two  
 23           ~~(2) or more successive accountability cycles failed to meet its goal~~], shall  
 24           include in the review and report:

25           1. The functioning of the school and the school council;

26           2. A determination of the school council and principal's ability to lead  
 27           the intervention in the persistently low-achieving school[The

- 1           ~~implementation of the school improvement plan and actions related to~~  
2           ~~the school council developed under subsection (1)(a) of this section];~~
- 3           3. The interaction and relationship between the superintendent, central  
4           office personnel, and the council; and
- 5           4. A recommendation to the commissioner of education~~[ in the audit~~  
6           ~~report]~~ concerning whether the school council should retain the authority  
7           granted to it under KRS 160.345, whether the council should be  
8           replaced, and whether the current principal should remain as  
9           principal in the school. If the recommendation is to transfer the  
10          authority of the school council, the team shall also recommend whether:
- 11          a. The authority should be transferred to the superintendent or to the  
12          commissioner of education who shall designate staff to manage  
13          the school~~[a highly skilled educator];[ and]~~
- 14          b. The school council should continue to act in an advisory capacity  
15          until all authority has been restored under subsection ~~(8)~~~~(6)~~  
16          this section; and
- 17          c. The members of the school council shall be replaced by the  
18          commissioner of education.
- 19          (b) ~~An~~~~[A scholastic]~~ audit team, established under KRS 158.6455 ~~(4) and (5)~~,  
20          auditing a district of a school subject to paragraph (a) of this subsection  
21          ~~{(2)(a) of this section}~~, shall include in its review and report:
- 22          1. The overall functioning of the school district;  
23          2. The interaction and relationship between the superintendent, central  
24          office personnel, school board members, and the council; and  
25          3. A determination of the district's ability to manage the intervention in  
26          the persistently low-achieving school.
- 27          (4) Within thirty (30) days of receiving the reports of the school and district audits,

1 the commissioner shall act on the recommendations in the reports and other  
 2 relevant data that the commissioner considers to have bearing on his or her  
 3 determination of actions to be taken ~~[The implementation of the district assistance~~  
 4 ~~plan for the audited school. In the audit report, the team shall make a~~  
 5 ~~recommendation to the commissioner of education concerning whether the school's~~  
 6 ~~council should retain its authority granted under KRS 160.345. If the~~  
 7 ~~recommendation is to transfer the authority of the school council, the team shall~~  
 8 ~~also recommend whether:~~

9 a. ~~The authority should be transferred to the superintendent or a~~  
 10 ~~highly skilled educator; and~~

11 b. ~~The school council should continue to act in an advisory capacity~~  
 12 ~~until all authority has been restored under subsection (6) of this~~  
 13 ~~section.~~

14 ~~(3) (a) 1. If both the school and the district audit teams recommend transfer of the~~  
 15 ~~council's authority to the superintendent, the commissioner of education~~  
 16 ~~shall transfer the council's authority under KRS 160.345 to the~~  
 17 ~~superintendent. The commissioner shall determine whether the school~~  
 18 ~~council shall continue in an advisory capacity and shall notify the local~~  
 19 ~~board of education, the district superintendent, the principal of the~~  
 20 ~~school, and the school council members of the action].~~

21 ~~(5) [2.]~~ Within thirty (30) days of the commissioner's action on the audit teams'  
 22 recommendations, the school council or local board of education may  
 23 appeal the commissioner's action to ~~[request that]~~ the Kentucky Board of  
 24 Education ~~[consider the matter]~~ by submitting a written request including any  
 25 supporting information. The Kentucky Board of Education shall consider the  
 26 audit reports, the commissioner's decision, and the request for consideration  
 27 with any supporting information, and make a final determination. If the state

1 board is not scheduled to meet within thirty (30) days following the receipt  
 2 of an appeal of the commissioner's decision, the board chair shall call a  
 3 special meeting for action upon the appeal.

4 ~~{(b) If both audit teams recommend transfer of the council's authority to a highly~~  
 5 ~~skilled educator or if both recommend transfer of the council's authority but~~  
 6 ~~are not in agreement as to the party to be granted authority, the commissioner~~  
 7 ~~shall make a recommendation to the Kentucky Board of Education, which~~  
 8 ~~shall make the final determination. The school council and the superintendent~~  
 9 ~~may submit supporting information. The commissioner shall include as part of~~  
 10 ~~the recommendation whether the school council shall continue in an advisory~~  
 11 ~~capacity. The Kentucky Board of Education shall consider the audit reports,~~  
 12 ~~the commissioner's recommendation, and supporting information provided by~~  
 13 ~~the school council and superintendent. The commissioner shall notify the local~~  
 14 ~~board of education, the district superintendent, the principal of the school, and~~  
 15 ~~the school council members of the recommendation and the Kentucky Board~~  
 16 ~~of Education's final action.~~

17 ~~(c) If the two (2) audit teams disagree in their recommendations about whether~~  
 18 ~~the council's authority should be transferred, the school council shall retain its~~  
 19 ~~authority.]~~

20 ~~(6){(4)}~~ If a decision is made to transfer powers, duties, and authority under  
 21 subsection (4) of this section, the local superintendent subject to the policies  
 22 adopted for the district by the local board of education, ~~[the local district~~  
 23 ~~superintendent]~~ or the commissioner or the commissioner's designee ~~[highly skilled~~  
 24 ~~educator]~~ shall assume all powers, duties, and authority granted to a school council  
 25 under KRS 160.345 thirty (30) days following the commissioner's action on the  
 26 audit teams' recommendations ~~[recommendation]~~ if no appeal to ~~[request for~~  
 27 ~~consideration by]~~ the Kentucky Board of Education is submitted or following the

1 final determination of the Kentucky Board of Education on an appeal, whichever is  
2 appropriate.

3 ~~(7)(5)~~ Within thirty (30) days after assuming the powers, duties, and authority under  
4 subsection ~~(6)(4)~~ of this section, the superintendent or the commissioner or the  
5 commissioner's designee~~[highly skilled educator]~~ shall consult with the council, if  
6 the council has been given an advisory role under subsection ~~(4)(3)~~ of this section,  
7 and with stakeholders at the school including parents, the principal, certified staff,  
8 and classified staff, and prepare a plan for developing capacity for sound school-  
9 based decision making at the school. The commissioner of education shall review  
10 the proposed plan and approve it or identify specific areas for improvement before  
11 giving final approval. The superintendent~~[or highly skilled educator]~~ shall report  
12 to the commissioner every six (6) months on the implementation and results of the  
13 approved plan.

14 ~~(8)(6)~~ The school's right to establish a council or the school's right for the council to  
15 assume the full authority granted under KRS 160.345 shall be restored if the school  
16 is not classified as persistently low-achieving for two (2) consecutive years~~[when~~  
17 ~~the school meets its goal for an accountability cycle as determined by the Kentucky~~  
18 ~~Department of Education under KRS 158.6455]~~.

19 (9) Each persistently low-achieving school shall engage in one (1) of the following  
20 intervention options:

21 (a) "External management option" which requires that the day to day  
22 management of the school is transferred to an education management  
23 organization that may be a for-profit or nonprofit organization that has  
24 been selected by a local board of education from a list of management  
25 organizations. The management organization may be approved by the  
26 Kentucky Board of Education after a rigorous review process, which shall  
27 be developed by the state board by the promulgation of administrative

1 regulations. The management organization's authority shall include the  
 2 right to make personnel decisions that comply with KRS Chapter 161 and  
 3 any employee-employer bargained contract that is in effect;

4 (b) "Restaffing option" which requires the replacement of the principal and the  
 5 existing school-based decision making council unless the audit reports  
 6 under subsection (3) of this section recommended otherwise, screening of  
 7 existing faculty and staff with the retention of no more than fifty percent  
 8 (50%) of the faculty and staff at the school, development and  
 9 implementation of a plan of action that uses research-based school  
 10 improvement initiatives designed to turn around student performance.  
 11 Personnel actions shall comply with KRS Chapter 161 and notwithstanding  
 12 KRS 160.380(1)(c) relating to filling vacant positions and KRS  
 13 160.345(2)(h)1. relating to transfers;

14 (c) "School closure option" which requires the closure of an existing school  
 15 and the transfer of its students to other schools within the district that are  
 16 meeting their accountability measures, reassignment of the school's faculty  
 17 and staff to available positions within the district, and which may result in  
 18 nonrenewal of contracts, dismissal, demotion, or a combination of these  
 19 personnel actions which shall comply with KRS Chapter 161 and  
 20 notwithstanding KRS 160.380 (1)(c) relating to filling vacant positions and  
 21 KRS 160.345(2)(h)1. relating to transfers;

22 (d) "Transformation option" means a school intervention option that begins  
 23 with replacing the school principal who led the school prior to  
 24 commencement of the transformation option and replacing the school  
 25 council members unless the audit reports under subsection (3) of this  
 26 section recommended otherwise and instituting an extensive set of specified  
 27 strategies designed to turn around the identified school which shall comply

1 with KRS Chapter 161 and notwithstanding KRS 160.380(1)(c) relating to  
 2 filling vacant positions and KRS 160.345(2)(h)1. relating to transfers; or

3 (e) Any other model recognized by the federal No Child Left Behind Act of  
 4 2001, 20 U.S.C. secs 6301 et seq., or its successor.

5 The Kentucky Board of Education shall promulgate administrative regulations to  
 6 establish the process and procedures for implementing the intervention options  
 7 identified in paragraphs (a) to (e) of this subsection available to local boards of  
 8 education and the commissioner of education.

9 (10) Professionally negotiated contracts by a local board of education shall not take  
 10 precedence over the requirements of paragraphs (b), (c), and (d) of subsection (9)  
 11 of this section.

12 (11) The Department of Education shall provide services and support to assist the  
 13 schools identified as persistently low-achieving.

14 ~~(12)(7)~~ If, in the course of a school or district[~~scholastic~~] audit, the audit team  
 15 identifies information suggesting that a violation of KRS 160.345(9)(a) may have  
 16 occurred, the commissioner of education shall forward the evidence to the Office of  
 17 Education Accountability for investigation.

18 →Section 2. KRS 160.380 is amended to read as follows:

19 (1) As used in this section:

20 (a) "Contractor" means an adult who is permitted access to school grounds  
 21 pursuant to a current or prospective contractual agreement with the school,  
 22 school board, school district, or school-affiliated entity, at times when  
 23 students are present. The term "contractor" includes an employee of a  
 24 contractor;

25 (b) "Relative" means father, mother, brother, sister, husband, wife, son, daughter,  
 26 aunt, uncle, son-in-law, and daughter-in-law; and

27 (c) "Vacancy" means any certified position opening created by the resignation,

1 dismissal, nonrenewal of contract, transfer, or death of a certified staff  
2 member of a local school district, or a new position created in a local school  
3 district for which certification is required. However, if an employer-employee  
4 bargained contract contains procedures for filling certified position openings  
5 created by the resignation, dismissal, nonrenewal of contract, transfer, or death  
6 of a certified staff member, or creation of a new position for which  
7 certification is required, a vacancy shall not exist, unless certified positions  
8 remain open after compliance with those procedures.

9 (2) Except as provided in Section 1 of this Act:

10 (a) All appointments, promotions, and transfers of principals, supervisors,  
11 teachers, and other public school employees shall be made only by the  
12 superintendent of schools, who shall notify the board of the action taken. All  
13 employees of the local district shall have the qualifications prescribed by law  
14 and by the administrative regulations of the Kentucky Board of Education and  
15 of the employing board. Supervisors, principals, teachers, and other  
16 employees may be appointed by the superintendent for any school year at any  
17 time after February 1 preceding the beginning of the school year. No  
18 superintendent of schools shall appoint or transfer himself or herself to  
19 another position within the school district.

20 (b) When a vacancy occurs in a local school district, the superintendent shall  
21 notify the chief state school officer thirty (30) days before the position shall be  
22 filled. The chief state school officer shall keep a registry of local district  
23 vacancies which shall be made available to the public. The local school  
24 district shall post position openings in the local board office for public  
25 viewing.

26 (c) When a vacancy needs to be filled in less than thirty (30) days' time to prevent  
27 disruption of necessary instructional or support services of the school district,

1 the superintendent may seek a waiver from the chief state school officer. If the  
2 waiver is approved, the appointment shall not be made until the person  
3 recommended for the position has been approved by the chief state school  
4 officer. The chief state school officer shall respond to a district's request for  
5 waiver or for approval of an appointment within two (2) working days.

6 (d) When a vacancy occurs in a local district, the superintendent shall conduct a  
7 search to locate minority teachers to be considered for the position. The  
8 superintendent shall, pursuant to administrative regulations of the Kentucky  
9 Board of Education, report annually the district's recruitment process and the  
10 activities used to increase the percentage of minority teachers in the district.

11 (e) No relative of a superintendent of schools shall be an employee of the school  
12 district. However, this shall not apply to a relative who is a classified or  
13 certified employee of the school district for at least thirty-six (36) months  
14 prior to the superintendent assuming office, or prior to marrying a relative of  
15 the superintendent, and who is qualified for the position the employee holds.  
16 A superintendent's spouse who has at least twenty (20) years of service in  
17 school systems may be an employee of the school district. A superintendent's  
18 spouse who is employed under this provision shall not hold a position in  
19 which the spouse supervises certified or classified employees. A  
20 superintendent's spouse may supervise teacher aides and student teachers.  
21 However, the superintendent shall not promote a relative who continues  
22 employment under an exception of this subsection.

23 (f) No superintendent shall employ a relative of a school board member of the  
24 district, unless on July 13, 1990, the board member's relative is an employee  
25 of the district, the board member is holding office, and the relative was not  
26 initially hired by the district during the tenure of the board member. A relative  
27 employed in 1989-90 and initially hired during the tenure of a board member

1 serving on July 13, 1990, may continue to be employed during the remainder  
2 of the board member's term. However, the superintendent shall not promote  
3 any relative of a school board member who continues employment under the  
4 exception of this subsection.

5 (g) 1. No principal's relative shall be employed in the principal's school, except  
6 a relative who is not the principal's spouse and who was employed in the  
7 principal's school during the 1989-90 school year.

8 2. No spouse of a principal shall be employed in the principal's school,  
9 except:

10 a. A principal's spouse who was employed in the principal's school  
11 during the 1989-90 school year for whom there is no position for  
12 which the spouse is certified to fill in another school operated in  
13 the district; or

14 b. A principal's spouse who was employed in the 1989-90 school year  
15 and is in a school district containing no more than one (1)  
16 elementary school, one (1) middle school, and one (1) high school.

17 3. A principal's spouse who is employed in the principal's school shall be  
18 evaluated by a school administrator other than the principal.

19 4. The provisions of KRS 161.760 shall not apply to any transfer made in  
20 order to comply with the provisions of this paragraph.

21 (3) No superintendent shall employ in any position in the district any person who is a  
22 violent offender or has been convicted of a sex crime as defined by KRS 17.165  
23 which is classified as a felony. The superintendent may employ, at his discretion,  
24 persons convicted of sex crimes classified as a misdemeanor.

25 (4) (a) A superintendent shall require a national and state criminal background check  
26 on all new certified hires in the school district and student teachers assigned  
27 within the district. Excluded are certified individuals who were employed in

1 another certified position in a Kentucky school district within six (6) months  
2 of the date of hire and who had previously submitted to a national and state  
3 criminal background check for the previous employment.

4 (b) The superintendent shall require that each new certified hire and student  
5 teacher, as set forth in paragraph (a) of this subsection, submit to a national  
6 and state criminal history background check by the Department of Kentucky  
7 State Police and the Federal Bureau of Investigation.

8 (c) All fingerprints requested under this section shall be on an applicant  
9 fingerprint card provided by the Department of Kentucky State Police. The  
10 fingerprint cards shall be forwarded to the Federal Bureau of Investigation  
11 from the Department of Kentucky State Police after a state criminal  
12 background check is conducted. The results of the state and federal criminal  
13 background check shall be sent to the hiring superintendent. Any fee charged  
14 by the Department of Kentucky State Police and the Federal Bureau of  
15 Investigation shall be an amount no greater than the actual cost of processing  
16 the request and conducting the search.

17 (d) The Education Professional Standards Board may promulgate administrative  
18 regulations to impose additional qualifications to meet the requirements of  
19 Public Law 92-544.

20 (5) A superintendent shall require a state criminal background check on all classified  
21 initial hires.

22 (a) The superintendent shall require that each classified initial hire submit to a  
23 state criminal history background check by the Department of Kentucky State  
24 Police. If an applicant has been a resident of Kentucky twelve (12) months or  
25 less, the superintendent may require a national criminal history background  
26 check as a condition of employment.

27 (b) Any request for records under this section shall be on an applicant fingerprint

1 card provided by the Department of Kentucky State Police. The results of the  
2 state criminal background check and the results of the national criminal  
3 history background check, if requested under the provisions of paragraph (a)  
4 of this subsection, shall be sent to the hiring superintendent. Any fee charged  
5 by the Department of Kentucky State Police shall be an amount no greater  
6 than the actual cost of processing the request and conducting the search.

7 (6) The superintendent may require a contractor, volunteer, or visitor to submit to a  
8 national and state criminal history background check by the Department of  
9 Kentucky State Police and the Federal Bureau of Investigation. Any request for  
10 records under this section shall be on an applicant fingerprint card provided by the  
11 Department of Kentucky State Police. The results of the state criminal background  
12 check and the results of the national criminal history background check, if  
13 requested, shall be sent to the hiring superintendent. Any fee charged by the  
14 Department of Kentucky State Police shall be an amount no greater than the actual  
15 cost of processing the request and conducting the search.

16 (7) (a) If a school term has begun and a certified or classified position remains  
17 unfilled or if a vacancy occurs during a school term, a superintendent may  
18 employ an individual, who will have supervisory or disciplinary authority over  
19 minors, on probationary status pending receipt of the criminal history  
20 background check. Application for the criminal record of a probationary  
21 employee shall be made no later than the date probationary employment  
22 begins.

23 (b) Employment shall be contingent on the receipt of the criminal history  
24 background check documenting that the probationary employee has no record  
25 of a sex crime nor as a violent offender as defined in KRS 17.165.

26 (c) Notwithstanding KRS 161.720 to 161.800 or any other statute to the contrary,  
27 probationary employment under this section shall terminate on receipt by the

- 1 school district of a criminal history background check documenting a record  
2 of a sex crime or as a violent offender as defined in KRS 17.165 and no  
3 further procedures shall be required.
- 4 (d) The provisions of KRS 161.790 shall apply to terminate employment of a  
5 certified employee on the basis of a criminal record other than a record of a  
6 sex crime or as a violent offender as defined in KRS 17.165.
- 7 (8) (a) Each application or renewal form, provided by the employer to an applicant  
8 for a classified position, shall conspicuously state the following: "FOR THIS  
9 TYPE OF EMPLOYMENT, STATE LAW REQUIRES A STATE  
10 CRIMINAL HISTORY BACKGROUND CHECK AS A CONDITION OF  
11 EMPLOYMENT. UNDER CERTAIN CIRCUMSTANCES, A NATIONAL  
12 CRIMINAL HISTORY BACKGROUND CHECK MAY BE REQUIRED AS  
13 A CONDITION OF EMPLOYMENT."
- 14 (b) Each application or renewal form, provided by the employer to an applicant  
15 for a certified position, shall conspicuously state the following: "FOR THIS  
16 TYPE OF EMPLOYMENT, STATE LAW REQUIRES A NATIONAL AND  
17 STATE CRIMINAL HISTORY BACKGROUND CHECK AS A  
18 CONDITION OF EMPLOYMENT."
- 19 (c) Each application form for a district position shall require the applicant to:
- 20 1. Identify the states in which he or she has maintained residency,  
21 including the dates of residency; and
- 22 2. Provide picture identification.
- 23 (9) The provisions of subsections (4), (5), (6), (7), and (8) of this section shall apply to  
24 a nonfaculty coach or nonfaculty assistant as defined under KRS 161.185.
- 25 (10) A school-based decision making council parent member, as defined under KRS  
26 160.345, shall submit to a state and national fingerprint-supported criminal history  
27 background check by the Department of Kentucky State Police and the Federal

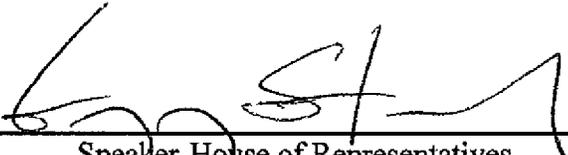
1 Bureau of Investigation. The results of the state criminal history background check  
2 and the results of the national criminal history background check, if requested, shall  
3 be sent to the district superintendent. Any fee charged by the Department of  
4 Kentucky State Police shall be an amount no greater than the actual cost of  
5 processing the request and conducting the search. A parent member may serve prior  
6 to the receipt of the criminal history background check report but shall be removed  
7 from the council on receipt by the school district of a report documenting a record  
8 of a sex crime or criminal offense against a victim who is a minor as defined in  
9 KRS 17.500 or as a violent offender as defined in KRS 17.165, and no further  
10 procedures shall be required.

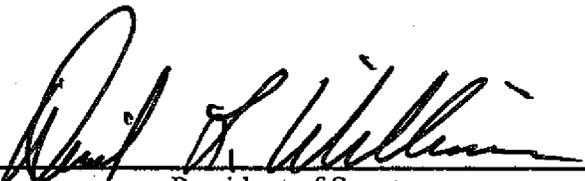
11 (11) Notwithstanding any provision of the Kentucky Revised Statutes to the contrary,  
12 when an employee of the school district is charged with any offense which is  
13 classified as a felony, the superintendent may transfer the employee to a second  
14 position until such time as the employee is found not guilty, the charges are  
15 dismissed, the employee is terminated, or the superintendent determines that further  
16 personnel action is not required. The employee shall continue to be paid at the same  
17 rate of pay he or she received prior to the transfer. If an employee is charged with an  
18 offense outside of the Commonwealth, this provision may also be applied if the  
19 charge would have been treated as a felony if committed within the Commonwealth.  
20 Transfers shall be made to prevent disruption of the educational process and district  
21 operations and in the interest of students and staff and shall not be construed as  
22 evidence of misconduct.

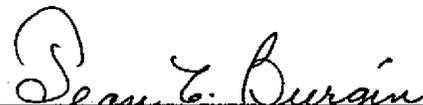
23 →Section 3. Whereas, the 2009 Advance Placement results confirmed that the  
24 concerted effort of Advance Kentucky dramatically boosted student achievement on  
25 demanding AP examinations as evidenced by the percentage of passing scores on the  
26 2009 AP math, science, and English examinations in Advance Kentucky schools, which  
27 increased 76.6 percent above the previous year; and whereas, AP classes increase student

1 achievement by providing rigor in classes and students receive college credit for each  
2 passing AP score, the Kentucky Department of Education shall include in Kentucky's  
3 Race to the Top application a description of the intent to expand Advance Kentucky  
4 schools by twenty (20) schools each year over a four-year period. The Kentucky  
5 Department of Education shall provide fifty percent (50%) of the cost of the program with  
6 all additional costs to be covered by grants from philanthropy, local district funding, and  
7 other sources of funding, which may include funding from the General Assembly.

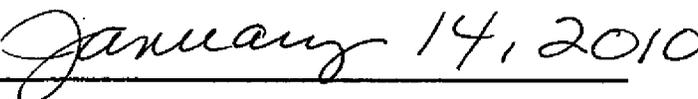
8       →Section 4. Whereas, operating changes need to be made to conform with state  
9 and federal regulations, which affect significant federal funding for the Commonwealth,  
10 and the Commonwealth needs to implement these changes quickly, an emergency is  
11 declared to exist, and this Act takes effect upon its passage and approval by the Governor  
12 or upon its otherwise becoming a law.

  
\_\_\_\_\_  
Speaker-House of Representatives

  
\_\_\_\_\_  
President of Senate

Attest:   
\_\_\_\_\_  
Chief Clerk of House of Representatives

Approved   
\_\_\_\_\_  
Governor

Date   
\_\_\_\_\_

1 **Education and Workforce Development Cabinet**

2 **Kentucky Board of Education**

3 **Department of Education**

4 **(New Emergency Regulation)**

5 **703 KAR 5:180E. Intervention system for persistently low-achieving schools.**

6 RELATES TO: KRS 158.6453, 158.6455, 160.346

7 STATUTORY AUTHORITY: KRS 156.029(7), 156.070(5), 158.6453, 158.6455,

8 160.3461(1)(a) and (9)

9 NECESSITY, FUNCTION, AND CONFORMITY: KRS 160.346 as amended by 2010 Ky. Acts

10 ch. \_\_\_\_\_ requires the Kentucky Board of Education to promulgate administrative regulations to

11 establish the process and procedures for implementing school interventions and alternate

12 management options for schools, districts, and the state for persistently low-achieving schools.

13 This administrative regulation establishes the process and procedures for implementing those

14 interventions and alternate governance options.

15 Section 1. Definitions. (1) “Assessment Team” means a group assigned by the Commissioner of

16 Education to conduct the or audit required by KRS 160.346 who are selected pursuant to the

17 requirements of 703 KAR 5:120 and KRS 158.6455.

18 (2) “District Leadership Assessment” means the audit that is conducted:

19 (a) In a district that contains at least one (1) persistently low-achieving school; and

20 (b) Pursuant to Section 3 of this administrative regulation.

1 (3) “Needs Assessment” means a formal process to ascertain the strengths and weaknesses of the  
2 identified school for the purpose of developing the strategy for the school’s turnaround pursuant  
3 to KRS 160.346.

4 (4) “School Leadership Assessment” means the audit that is conducted:

5 (a) In a persistently low-achieving school; and

6 (b) Pursuant to Section 2 of this administrative regulation.

7 Section 2. School leadership assessment. (1) Within sixty (60) days of identification as a  
8 persistently low-achieving school, a school leadership assessment shall be performed for a  
9 persistently low-achieving school by the assessment team to review the functioning of the school  
10 council and also the specific leadership capacity of the principal.

11 (2) The assessment shall make a determination of the school council’s and principal’s ability to  
12 lead the intervention in the school based upon the following criteria:

13 (a) The school leadership’s ability to function as an effective learning community and support a  
14 climate conducive to performance excellence;

15 (b) The school leadership’s ability to actively engage families and community groups to remove  
16 barriers to learning in an effort to meet the intellectual, social, career and developmental needs of  
17 students;

18 (c) The school leadership’s ability to focus its professional learning program primarily on job-  
19 embedded professional learning;

20 (d) The school leadership’s ability to make instructional decisions that focus on support for:

21 1. teaching and learning;

22 2. organizational direction;

23 3. high performance expectations;

- 1 4. creating a learning culture; and
- 2 5. developing leadership capacity.
- 3 (e) The school leadership's ability to organize the school to maximize use of all available
- 4 resources (both human and fiscal) to support high student and staff performance; and
- 5 (f) The school leadership's ability to effectively:
  - 6 1. Identify the needs of all students;
  - 7 2. Set specific, measurable goals to address those needs;
  - 8 3. Implement specific strategies to reach those goals;
  - 9 4. Provide adequate resources to implement those strategies; and
  - 10 5. Frequently monitor implementation of the strategies and make adjustments when strategies are
  - 11 not achieving the desired outcomes.
- 12 (3) The school leadership assessment shall utilize the
  - 13 (a) Standards and Indicators for School Improvement;
  - 14 (b) the Missing Piece of the Proficiency Puzzle;
  - 15 (c) classroom observations;
  - 16 (d) stakeholder interviews;
  - 17 (e) teacher and principal working conditions survey; and
  - 18 (f) portfolio of school records.
- 19 (4) The assessment team shall specifically make recommendations regarding whether the:
  - 20 (a) School council has the capability and capacity to continue its roles and responsibilities
  - 21 established in KRS 160.345; and
  - 22 (b) Principal has the capability and capacity to continue his or her roles and responsibilities
  - 23 established in KRS 160.345.

1 (5) A School Leadership Assessment shall be repeated every two years until the school is no  
2 longer identified as persistently low-achieving.

3 Section 3. District leadership assessment. (1) Within sixty (60) days of identification as a district  
4 containing a low-achieving school, a district leadership assessment shall be performed by the  
5 assessment team to review the functioning of the district administration and its specific  
6 leadership capacity related to each identified school.

7 (2) The assessment team shall specifically make a recommendation regarding whether the district  
8 has the capability and capacity to manage the intervention in the identified school(s).

9 (3) There shall be only one district leadership assessment per district, regardless of the number of  
10 persistently low-achieving schools located in the district.

11 (4) The assessment shall make a determination of the district's ability to manage the intervention  
12 in the school based upon the following criteria:

13 (a) The district leadership's commitment to support each school in its efforts to be effective  
14 learning communities and to support climates conducive to performance excellence;

15 (b) The district leadership's commitment to actively engage families and community groups to  
16 remove barriers to learning in an effort to meet the intellectual, social, career and developmental  
17 needs of students;

18 (c) The district leadership's commitment to provide the resources, time and calendars necessary  
19 for each school to build professional learning programs based primarily on job-embedded  
20 professional learning;

21 (d) The district leadership's commitment to support instructional decisions that focus on support  
22 for teaching and learning, organizational direction, high performance expectations, creating a  
23 learning culture, and developing leadership capacity;

1 (e) The district leadership’s ability to provide the human, fiscal and time resources to allow each  
2 school to support high student and staff performance; and

3 (f) The district leadership’s ability to support, through its district improvement plan, school  
4 efforts to effectively:

- 5 1. Identify the needs of all students;
- 6 2. Set specific, measurable goals to address those needs;
- 7 3. Implement specific strategies to reach those goals;
- 8 4. Provide adequate resources to implement those strategies; and
- 9 5. Frequently monitor implementation of the strategies and make adjustments if strategies are not  
10 achieving the desired outcomes.

11 (5) The district leadership assessment shall utilize the:

- 12 (a) Standards and Indicators for School Improvement;
- 13 (b) Stakeholder interviews; and
- 14 (c) Portfolio of district records.

15 (6) A district leadership assessment shall be repeated every two years as long as the district  
16 contains at least one (1) persistently low-achieving school.

17 Section 4. Selection of an intervention option. The intervention option applied to a school shall  
18 be determined by the school, the district or the Commissioner, based upon the results of the  
19 leadership assessments as established in this section:

20 (1) If the school assessment determines that the school council has sufficient capacity to manage  
21 the recovery, and the district assessment determines the district has the capacity to support the  
22 recovery, the school council shall, within thirty (30) days after the receipt of the assessment  
23 determination, choose an intervention option and develop an action plan. The council shall

1 present the option and plan to the local board of education, which shall give final approval and  
2 provide the necessary support and resources for the recovery effort.

3 (2) If the school assessment determines that the school council does not have sufficient capacity  
4 to manage the recovery and recommends the council's authority be transferred and the district  
5 audit finds sufficient district capacity to support the recovery and recommends the council's  
6 authority be transferred to the superintendent, the superintendent shall, within thirty (30) days  
7 after the receipt of the assessment determination, make a recommendation for an intervention  
8 option and submit the choice to the local board of education, which shall make the final  
9 determination on the intervention option.

10 (3) If the school assessment determines that the school council has sufficient capacity to manage  
11 the recovery, and the district assessment determines the district does not have the capacity to  
12 support the recovery, the school council shall, within thirty (30) days after the receipt of the  
13 assessment determination, choose the intervention option and submit its choice to the local board  
14 of education, which shall review the option chosen by the school council and submit the choice  
15 to the Commissioner of Education who shall approve the choice.

16 (4) If the school assessment determines that the school council does not have sufficient capacity  
17 to manage the recovery and recommends the council's authority be transferred, and the district  
18 assessment finds the district lacks sufficient capacity to support the recovery and recommends  
19 the council's authority be transferred to the Commissioner of Education, the Commissioner of  
20 Education shall, within thirty (30) days after receipt of the assessment determination and in  
21 consultation with the school council, superintendent and local board of education, determine the  
22 intervention option. The identified school and local district shall implement the intervention  
23 option with support from the Kentucky Department of Education.

1 Section 5. Implementation of intervention options. (1) A school or district engaging in the Re-  
2 Staffing Option shall:

3 (a) Replace the principal with an individual who has specific training in turning around low-  
4 achieving schools and grant the new leader sufficient operational flexibility, including staffing,  
5 calendars, time, and budgeting, to fully implement a comprehensive approach in order to  
6 substantially improve student achievement outcomes and, if a high school, increase high school  
7 graduation rates. The current principal shall be eligible to remain if the school leadership  
8 assessment determines the principal has the capacity to lead the recovery.

9 (b) Use standards adopted locally by the board of education to measure the effectiveness of staff  
10 who can work within the turnaround environment to meet the needs of students;

11 (c) Select new staff to replace those transferred or dismissed;

12 (d) Implement strategies designed to increase opportunities for career growth, including more  
13 flexible working conditions that are designed to recruit, place, and retain staff with the skills  
14 necessary to meet the needs of the students in the turnaround school;

15 (e) Provide staff with ongoing, high-quality, job-embedded professional development that is  
16 aligned with the school's comprehensive instructional program and designed with school staff to  
17 ensure that they are equipped to facilitate effective teaching and learning and have the capacity  
18 to successfully implement school reform strategies;

19 (f) Adopt a new governance structure, shall include requiring the school to report to either the  
20 district or the Kentucky Department of Education;

21 (g) Use data to identify and implement an instructional program that is research-based and  
22 vertically aligned from one grade to the next as well as aligned with the required core academic  
23 standards established in 704 KAR 3:303;

- 1 (h) Promote the continuous use of student data from formative, interim, and summative  
2 assessments to inform and differentiate instruction in order to meet the academic needs of  
3 individual students;
- 4 (i) Establish schedules and implement strategies that provide increased learning time; and
- 5 (j) Provide appropriate social, emotional, and community-oriented services and supports for  
6 students.

7 (2) A school or district engaging in the External Management Option shall:

- 8 (a) choose an education management organization (EMO) from a list of approved EMO's  
9 established by the Kentucky Board of Education pursuant to Section 6 of this administrative  
10 regulation; and

11 (b) Contract with the EMO to provide day to day management of the school.

12 (3) A school or district engaging in the Transformation Option shall:

- 13 (a) Replace the principal who led the school prior to commencement of the transformation model  
14 with certified principal who has specific training in turning around low-achieving schools. The  
15 current principal shall be eligible to remain if the school leadership assessment determines the  
16 principal has the capacity to lead the recovery and has specific training in turning around low-  
17 achieving schools;

18 (b) Use rigorous, transparent, and equitable evaluation systems for teachers and principals that:

- 19 1. Take into account data on student growth as a significant factor as well as other factors such as  
20 multiple observation-based assessments of performance and ongoing collections of professional  
21 practice reflective of student achievement and increased high-school graduations rates; and  
22 2. Are designed and developed with teacher and the replacement principal's involvement;

- 1 (c) Identify and provide additional leadership and compensation opportunities to school leaders,  
2 teachers, and other staff who have increased student achievement and high-school graduation  
3 rates, if applicable, and identify and remove those who, after ample opportunities have been  
4 provided for them to improve their professional practice, have not done so;
- 5 (d) Provide staff with ongoing, high-quality, job-embedded professional development that is  
6 aligned with the school's comprehensive instructional program and designed with school staff to  
7 ensure they are equipped to facilitate effective teaching and learning and have the capacity to  
8 successfully implement school reform strategies which shall include:
- 9 1. Subject-specific pedagogy;
  - 10 2. Instruction that reflects a deeper understanding of the community served by the school; and
  - 11 3. Differentiated instruction;
- 12 (e) Implement strategies designed to increase opportunities for career growth which shall include  
13 more flexible working conditions designed to recruit, place, and retain staff with the skills  
14 necessary to meet the needs of the students in a transformation school;
- 15 (f) Use data to identify and implement an instructional program that is research-based and  
16 vertically aligned from one grade to the next as well as aligned with state academic standards;
- 17 (g) Promote the continuous use of student data from formative, interim, and summative  
18 assessments to inform and differentiate instruction in order to meet the academic needs of  
19 individual students;
- 20 (h) Increase learning time and create community-oriented schools that:
- 21 1. Establish schedules and implement strategies that provide increased learning time; and
  - 22 2. Provide ongoing mechanisms for family and community engagement; and
- 23 (i) Provide operational flexibility and sustained support that:

1 1. Gives the school sufficient operational flexibility, including staffing, calendar, time, and  
2 budgeting to fully implement a comprehensive approach to substantially improve student  
3 achievement outcomes and increase high school graduation rates; and

4 2. Ensures that the school participates in ongoing, intensive technical assistance and related  
5 support from the local district and the state.

6 (4) A school or district engaging in the “School Closure Option” shall develop a plan for the  
7 closure of the school. The plan shall include:

8 (a) A process for the transfer of students and the reassignment of staff to higher performing  
9 schools in the district;

10 (b) A determination regarding the use of the existing facility and other assets; and

11 (c) A method of monitoring the progress of students in their new school environment.

12 Section 6. Establishment of approved External Management Organizations.

13 (1) The list of approved EMOs shall be created by the Commissioner of Education following the  
14 application process established in subsection (2) of this section.

15 (2) The Commissioner shall issue a request for information to solicit EMO applicants who shall  
16 detail the scope of the services they are able to provide to persistently low-achieving school. The  
17 request for information shall solicit the following information:

18 (a) The ability of the EMO to staff the school with dynamic leadership during the period of the  
19 contract;

20 (b) The ability of the EMO to conduct a needs assessment in the school and develop a plan of  
21 action based on the needs assessment;

22 (c) The ability of the EMO to deliver a comprehensive list of services designed to turnaround the  
23 school(s);

- 1 (d) The ability of the EMO to screen staff and make decisions on staff assignments;
- 2 (e) Its familiarity with Kentucky school laws and administrative regulations;
- 3 (f) The experience of the EMO in turning around low-achieving schools;
- 4 (g) References from other low-achieving schools or school districts;
- 5 (h) Evidence by the EMO that its provision of services includes instructional leadership,
- 6 professional learning support for teachers and other staff, and services to families and
- 7 community stakeholders; and
- 8 (i) Evidence of the EMO's financial stability, any pending or threatened litigation, and liability
- 9 insurance coverage.

10 (3) The Commissioner of Education shall review all responses and determine which applicants  
11 meet the criteria in subsection (2) of this section. The qualifying applicants shall be submitted to  
12 the Kentucky Board of Education for approval. The list of approved EMOs shall be made  
13 public upon approval by the Kentucky Board of Education.

14 Section 7. Incorporation by Reference. (1) The following material is incorporated by reference:

- 15 (a) "Standards and Indicators for School Improvement", dated March 30, 2000; and
- 16 (b) "The Missing Piece of the Proficiency Puzzle, dated June 2007.

17 (2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at  
18 the Kentucky Department of Education, First Floor, Capital Plaza Tower, Frankfort, Kentucky  
19 40601, Monday through Friday, 8:00 a.m. to 4:30 p.m..



# KENTUCKY'S STATEWIDE SYSTEM OF SUPPORT ASSIST TEAMS

## A`bj f qnt mc

- Oqmqn sgd 1//7,/8 rbggnkxd` q+sgd r s` sdv hcd rxsdl nert oonqbnmr h r sdc nq
- '0-( Gf gk Rj hdc Dct b` snq 'GRD( v gn enbt rdc nmr bggnk hm` r r h r s` nbd 'Kdudk2( a` rdc nmsgd r s` sd` bbnt ns` alhx rxsdl
- '1-( Chrsjbs@gldudl dmsF` o Bnnqhm snq 'C@F B( v gn enbt rdc nmchrsjbs hm bnqpbshud` bsnm' Stdq2( ` mc rbggnk hmqr sct bst qmf 'Stdq 3` mc 4(-
- '2-( S` q d ddc @r h r s` nbd Bn` bgdr 'S@B( v gn enbt rdc nmr bggnk hm` r r h r s` nbd a` rdc nmsgd r s` sd` bbnt ns` alhx rxsdl
- '3-( Eq nj enqsa` rdc Jdnt bj x Cdo` qd dmsneDct b` snm' JCD( bnmrt ls` nq v gn oqulecdc qprnt qdr +sdbgnk k` r r h r s` nbd ` mc rt oonqbnq GRDr+C@F Br+S@Br ` mc chrsjbs rbggnk r s` e

hnl` nt` q 1//7+Bnl I h r h mndql nmCq t c bql` sdc sgd Akt d QraanmO` mdknm h r sdcudnsmm hmknv, odqnd h r rbggnk - Sgd qonqbnq sghr o` mdk v nq h r *The Blue Ribbon Panel Report: The Improvement Imperative.* - @bdmsq kotubd nesq` sqonqv` r sgd bql` snmne` mdv rxsdl nelmsdcudnsmm rt oonqbnq sv nt lc enk hm` kcoqulmtr r s` sd kludk h r sdcudnsmmoqf q l r - Sgd @r h r s` mc Rt oonqbnq RbggnkHl oqudl dmsRt bddr Sd` I r '@RRHS( adb` I d sgd r s` sdv hcd rxsdl nert oonqbnqsgd 1//7,/8 rbggnkxd` q ` mc v hkbnnsmrt d enqsgd 1//8,0/ rbggnkxd` q

## @RRHS Sd` I Nq` nly` snm` mc L dl adq glo

D` bg @RRHS sd` I h r e bhs` sdc ` mc kdc ax ` GRD+S@B+C@F B nqEq nj enqsa` rdc JCD bnmrt ls` nq Sgd rt oddmsdncdms` mc nsgdqchrsjbs r s` e` r cdscd hmdc ax sgd rt oddmsdncdms` q l ` mc` snq l dl adq nesgd sd` I - Nsgdq @RRHS sd` I l dl adq glo h r e h +at shr cdr h h mdc rodb h k` k` sn l ddsqd mddc hcdmsdc hmd` bg rbggnkchrsjbs ` mc.nqrbggnk Ek h l dl adq l ` x hmbk cd JCD bt qbt k l bnmrt ls` nq +r odb h k dct b` snmbnmrt ls` nq ` mc.nqdwscdq ko` qndq 'hd- JX RbggnkAn` q @r nbh snm+JX Kd` cdq glo @` cdl x+JX @r nbh snmneRbggnk@l h r s` q +JX @r nbh snmne RbggnkBnt n h r +ds(-

@RRHS sd` I r v dql` r r h h mdc sn chrsjbs ` mc rbggnk a` rdc nml t kold c` s` on h r - JCD Kd` cdq glo qulvdc sgd 1//7 Bnl I nmv d` leg @bnt ns` alhx Sdr snf Rxsdl 'B@SR( Rbnqr+1//7 MBKA R s` t r +` bghudl dmsf` or +f q ct` snmq sdr +oqulmtr r s` sd ` r r h r s` nbd +` mc chrsjbskd` cdq glo b` o` bhs` sn cdscd hmd sgd @RRHS sd` I l dl adq glo ` mc oqndq chrsjbs ` mc rbggnk - Ehs, rdudm' 46( chrsjbs v dql rdqdc ax 27 GRDr+0/ d ksh d C@F Br+1 o` qst d C@F Br+02 o` qst d S@Br ` mc 04 Eq nj enqsa` rdc JCD bnmrt ls` nq -

## Rdquldr Oqulecdc ax @RRHS Sd` I r

Sgd @RRHS sd` I r Oqndq` kenbt r h r sn at h c ` mc rt r s` hmd` cdq glo b` o` bhs` hmsgd hcdmsdc chrsjbs ` mc rbggnk hm` cchsmn cdudk h r s` ` ok msn dkt hm` sd f` or hm ` b` cdl h odqnd ` nbd-

Sgd Rš`mc`qpr`mc`hrlc`snq`enqRbggnkHl oqudl dms'RHRH`q t r dc sn qulv`mc`  
`m`kyd`kè bds`ne`chrsos`nodq`smm+hmkt`clmf`sgd`cdr`h`m`mc`nodq`smmnesgd  
hmr`sq`bsnm`koqf`q`l`mc`trd`sgd`emr`mf`r`sn`gdlo`sgd`chrsos`cdudkno`qbnl`l`dmc`smm  
enq`h`oqudc`rst`cdms`od`q`d`rd-

Nsgdq`qpr`onm`hrlc`dr`hmkt`cd+at`s`q`mns`k`h`lsc`sn+`r`r`h`r`smf`sgd`chrsos`.rbggnk`hmØ  
Nq`f`mly`mf`mc`cdk`udd`mf`clp`bsrt`oonq`rd`q`h`odr`sn`rbggnk`hmqpr`onm`rd`sn`sgdq`  
mddr:

hrlc`dr`mf`chrsos`.rbggnk`nmgv`sn`trd`c`s`sn`bkrd`bgldudl`dms`f`or:

@`r`dr`r`mf`onk`h`odr`mc`oq`bsodr`sn`dmt`q`d`sg`schrsos`q`h`okl`dms`mf`k  
MBKA`q`pt`h`pl`dms`Ö

Kdudq`f`mf`qpr`nt`q`dr`mc`rt`oonq`mf`oq`edr`hm`kcdudkno`l`dms`noonq`m`odr`Ö  
v`nq`mf`hm`bnmit`nbs`nmv`sg`sgd`q`f`hm`kcdct`b`smm`kbn`nodq`studr`sn`oqudc`  
rd`q`h`odr`sg`sv`h`k`h`oqudc`rst`cdms`bgldudl`dms`hmsgd`chrsos`:

@`r`h`r`smf`hmsgd`q`ulr`hm`mc`h`okl`dms`smm`neb`nl`oq`gd`m`hud`chrsos`rbggnk`  
h`oqudc`dms`ok`m`r`:

Cd`em`mf`sgd`chrsos`Ö`bggnk`Ö`h`r`hm`mc`cdudkno`mf`ok`m`sn`rt`oonq`rst`cdms`  
k`d`q`r`mf`hm`k`rbggnk`:

L`ned`k`mf`adr`soq`bsodr`enq`sd`bgdq`:

@`r`h`r`smf`hm`h`okl`dms`mf`Oq`edr`hm`k`k`d`q`r`mf`Bnl`l`t`m`odr`:

@`r`h`r`smf`hm`cdudkno`mf`bnms`mt`nt`r`r`dr`rl`dms`oq`bsodr`mc`cit`r`smf`  
hmr`sq`bsnm`ma`rdc`nmc`s`s`m`k`r`h`r`-

L`dsgnc`enq`L`nm`l`mf`Chrsos`Admf`Rdqdc`

@`RRHRS`sd`l`r`bnl`oksd`l`nms`gk`q`lonq`r`-Rst`cdms`bgldudl`dms`c`s`h`r`q`ulv`dc+  
oqf`q`r`snv`q`l`dd`smf`h`cdms`stc`naid`bsudr`h`r`q`lonq`dc`nmsgd`l`nms`gk`q`lonq`r`mc`  
r`sd`ulr`h`r`q`d`bnm`et`bsdc`sn`l`nm`l`n`oq`qf`q`r`snv`q`h`oqudc`dms`

Sq`hm`mf`Oqudc`enq`J`CD`@`RRHRS`Sd`l`L`dl`adq`

D`bg`rt`l`l`dq`GRDr`+C`@`Br`+`mc`S`@`Br``sdmc`sg`q`d`v`dj`r`neb`c`q`d`sq`hm`mf`-Ct`q`mf`  
sgd`rbggnkxd`q`b`c`q`d`sq`hm`mf`h`r`oqudc`dc`enq`ooq`wh``s`k`k`dud`q`r`hwv`dj`r`-D`bg`  
rbggnkxd`q`b`c`q`d`h`r`sv`n`c`x`r`hm`k`mf`sg`-Oq`m`blo`k`nesgd`h`cdms`stc`rbggnk`q`d`q`pt`h`p`c`  
sn`sdmc`01`gnt`q`neoq`edr`hm`kcdudkno`l`dms`ct`q`mf`sgd`rbggnkxd`q`sg`sh`r`enbt`rdc`  
nmat`h`clmf`k`d`cdq`glo`b`o`b`l`x`-Ct`q`mf`sgd`1//7,/8`rbggnkxd`q`sgd`01`k`d`cdq`glo`gnt`q`  
hmkt`cdc`Tr`mf`QnnsB`trd`@`m`k`r`h`r`mc`At`h`clmf`Bq`d`stud`Rbgdct`kdr`-

# The VPAT Story

---

## Overview

In 2001 Congress enacted the most recent revision to the Elementary and Secondary Education Act (ESEA) more commonly referred to as the No Child Left Behind Act (NCLB). Among the many facets of the law were consequences for schools and school districts that were not making Adequate Yearly Progress (AYP) towards achievement goals for all students. In particular, the law set specific corrective actions that should be taken for schools and school districts that failed to meet the AYP targets for several consecutive years.

In Kentucky, our schools and school districts had been operating under a high stakes accountability model for over a decade when NCLB was enacted. We had been assessing our students and designating schools and districts for improvement during that time so it was nothing new to our state when the consequences under NCLB begin to occur.

Reporting under NCLB began with our state assessment results at the conclusion of the 2002-2003 school year. The system in Kentucky used a graduated scale and school districts in Kentucky were identified using a Tier status. Tiers were based on the number of years a school district did not meet the AYP targets.

Tier 1 occurred after a district had failed to meet AYP for two consecutive years;  
Tier 2 occurred after three consecutive years; and  
Tier 3 occurred after four consecutive years.

Each tier had specific consequences that became increasing more severe. At the Tier 3 level, the state is required to take corrective action in order to assist in “turning around” the school district. Based on the timeline established under NCLB, the first time that a school district would reach the Tier 3 status was at the conclusion of the 2005-06 school year.

In the fall of 2005, in anticipation of districts moving to Tier 3 the next year, the Kentucky Department of Education (KDE) began to consider a new approach to assisting these districts. Discussions began to occur between KDE and two of our education partners, the Kentucky Association of School Superintendents (KASS) and the Kentucky School Boards Association (KSBA), about a new model that would be unique in its intervention approach. Never before had these partners collaborated in the way they would for this initiative.

## Voluntary Partnership Assistance Teams

The result of this partnership effort was the creation of a new model of intervention called the Voluntary Partnership Assistance Team (VPAT). The program would begin in the winter of 2006 as a pilot with seven school districts. School districts that were currently at Tier 2 would

## The VPAT Story

---

have the opportunity to apply to the program. It was labeled as “voluntary” because, if chosen for the pilot, districts would be participating before they achieved Tier 3 status the next year.

The VPAT intervention would provide the local district with an intensive, collaborative, assistance process designed to build capacity at the district and school levels and provide essential support and oversight for immediate and sustained improved student achievement. The membership of each VPAT would be a five person team that would be formed to assist the district in reviewing the needs of the district and developing an improvement plan to address those needs. Each team would consist of the district superintendent (who would act as team leader), a KASS mentor for the superintendent, a KSBA Board Mentor, a Highly Skilled Educator (the Highly Skilled Educator program began in Kentucky with education reform in 1990 and has proven success in turning around schools), and a KDE staff member. While this base team was required, districts could choose to add membership if they felt it meet their circumstances.

The VPAT process began with each pilot district participating in a scholastic audit. The scholastic audit is a comprehensive analysis of the learning environment, efficiency, and academic performance of a school district. The purposes of the audit are to analyze strengths and limitations of the instructional and organizational effectiveness and to make specific recommendations to improve teaching and learning.

As stated earlier, districts that were at Tier 2 following the 2004-05 test results were given the opportunity to volunteer for the pilot phase of this program. Seven districts responded and were accepted into the pilot: Christian County, Fulton County, Gallatin County, Lawrence County, Madison County, Monroe County, and Russellville Independent. These districts all became Tier 3 districts after release of the 2006 NCLB Reports. According to the accountability system in Kentucky, these districts must meet AYP for two consecutive years in order to be released from consequences. That criteria means that all seven would remain in Tier 3 status until at least the release of the 2008 NCLB scores (August 2008).

In the fall of 2006 the VPAT program became a permanent part of the state’s system of support. The VPAT program is one of three options the state made available to districts who had reached the Tier 3 level of consequences under the No Child Left Behind Act of 2001 (NCLB). The other two options are State Assistance Teams (SAT) and Network Assistance Teams (NAT). These three options make up the state’s system of support as required by NCLB for districts falling into this level of consequences. The chart on the next page describes each option.

## The VPAT Story

<b>Option A - VPAT</b> Voluntary Partnership Assistance Team	<b>Option B – SAT</b> State Assistance Team	<b>Option C - NAT</b> Network Assistance Team
Five-member team made up of the local superintendent, an assigned superintendent mentor from the Kentucky Association of School Superintendents (KASS), a representative from the Kentucky School Boards Association (KSBA), a Highly Skilled Educator, and a KDE administrator.	Flexible teams consisting of field-based staff (Achievement Gap Coordinators and District Support Facilitators) and Frankfort based staff. One team member is the lead for coordinating communication and activity of the team while the other members move on and off the team based on the need for their areas of expertise.	Local district leadership provides evidence of the capacity to work with a network proven effective in improving student achievement and building capacity for support in implementing improvement plans. A review of school reform networks is available at <a href="http://lanes.panam.edu/reform/srn/intro">http://lanes.panam.edu/reform/srn/intro</a> .

In 2007-08 there were 45 Tier 3 districts in Kentucky: 24 VPAT, 12 SAT and 9 NAT.

### What have we learned?

With the release of the NCLB data for 2008, we now can assess the success of the program with the original seven districts. With the 2008 scores we have the first opportunity for a district to come completely out of NCLB consequences. 43% (3 of 7) districts from the pilot are now out of consequences. Keep in mind that these districts had never met AYP since the implementation of NCLB. They must meet AYP for two consecutive years to exit consequences.

<b>Pilot Districts</b>	<b>2007 and 2008 AYP Results</b>
Christian County	Did not meet AYP in either year, remain Tier 3
Fulton County	Out of Consequences - Meet all AYP targets in both 2007 and 2008
Gallatin County	Meet AYP in 2007, left VPAT program in 2007-08, failed to meet AYP in 2008, still at Tier 3. Need to meet AYP in 2009 and 2010 to exit consequences.
Lawrence County	Did not meet AYP in 2007, but did meet AYP in 2008. Need to meet AYP in 2009 to exit consequences.
Madison County	Out of Consequences - Meet all AYP targets in both 2007 and 2008
Monroe County	Out of Consequences - Meet all AYP targets in both 2007 and 2008
Russellville Independent	Meet AYP in 2007, left VPAT program in 2007-08, failed to meet AYP in 2008, still at Tier 3. Need to meet AYP in 2009 and 2010 to exit consequences.

## The VPAT Story

---

Progress is coming more quickly since the program was expanded. Six of the additional seventeen (17) VPAT districts (35%) that entered the program the year after the pilot (2006-07) made AYP in both 2007 and 2008 and are out of consequences. That makes the success rate for VPAT (38%).

The success of the VPAT program has been most evident in the districts where the district leadership (board of education and superintendent) have embraced the intent of the group, accepted the constructive criticism the scholastic audit brings and integrated the recommendations of the team into their daily practice. The two districts that have not seen an improvement in their student achievement have not been fully prepared to accept the intensive, collaborative, assistance process designed of the VPAT and were not ready to build capacity at the district and school levels and provide essential support and oversight for immediate and sustained improved student achievement.

The VPAT program has shown the most significant success rate, followed closely by the SAT option (33.3%). Only one district that chose the NAT option (11%) has made it out of consequences. This option has proven less effective in building leadership capacity in school districts and to helping bring up student achievement.

### **The Future**

We believe that we have created a high quality, cost efficient intervention model that has gone beyond any intervention model we have used in Kentucky in the past. Previous interventions have focused on the department of education coming in to “fix” a school or district. The VPAT model is, by design, a model that assists school districts in improving student achievement by providing needed support while allowing the district to maintain control and take ownership for their actions. Tommy Floyd, superintendent of the Madison County Schools, had this to say about the VPAT experience and what it has meant to his district as they have improved the learning of their students:

“I believe the VPAT program was the catalyst for the positive changes in student learning that have occurred in the Madison County Schools over the last two years. The intervention team provided the support and guidance necessary for our district to move forward. More importantly, unlike some previous intervention models, the VPAT model leaves the district in control and allows us to build our own internally capacity and to make our own decisions about what is best for our kids.”

## *Kentucky's Highly Skilled Educators Program*

<http://www.education.ky.gov/KDE/Administrative+Resources/School+Improvement/Assistance+to+Schools/Highly+Skilled+Educators/>

### **History and Statutory Authorization**

In 1990, the Kentucky Education Reform Act (KERA) brought a transformation of education in the state. One of the provisions of the original KERA was the Distinguished Educator (DE) Program, codified as KRS 158.782, which was the predecessor to the current Highly Skilled Educators (HSE) Program. The purpose of the DE Program was twofold. First, it was initiated to provide support to schools whose accountability index declined over a two-year biennium. Second, it was designed as a means to reward our most outstanding teachers and administrators with recognition for excellence, a salary incentive, and an opportunity to assist other teachers, administrators and schools. Schools whose scores declined over five points were considered to be "in crisis". Schools "in decline" and schools "in crisis" were assigned a Distinguished Educator.

### **Changes from DE to HSE**

In 1998, the General Assembly changed the name from the Distinguished Educator Program to the Highly Skilled Educators Program as the state's assessment system transitioned from KIRIS to CATS. The statute was revised to provide a focus of assistance to low-performing schools.

### **Program Facts**

In 1994-1996, 53 schools were served by 50 DEs. Improved Academic Index at all 53 schools were reported with 34 of the 53 exceeding their goal.

In 1996-1998, 178 schools were served by 49 DEs. Of the 167 schools with improved Academic Index reported, 85 exceeded their goal.

In 1998-2000, 66 schools were served by 63 HSEs. Reports indicated that 65 schools had an improved Academic Index. All Level 3 schools moved out of the Level 3 classification by meeting or exceeding their goal.

In 2000-2002, 53 schools and 2 districts were served by 54 HSEs. The Academic Index improved at 46 schools. Again, all Level 3 schools moved out of the Level 3 classification by meeting or exceeding their goal.

In 2002-2004, 84 schools and 4 districts were served by 55 HSEs. Improved Academic Index at 80 schools were reported. All Level 3 schools with the exception of 2 moved out of the Level 3 classification by meeting or exceeding their goal.

In 2004-2006, 47 schools and 2 districts were served by 49 HSEs. The Academic Index improved at all schools and districts served by HSEs by an average of 7.5 points. All but 3 Level 3 schools came out of assistance by meeting or exceeding their goal.

### **Eligibility Criteria**

In order to be eligible to apply for a position as a Highly Skilled Educator the following criteria must be met:

- A. Kentucky certification as an educator
- B. A minimum of five completed years of successful experience as a teacher or educational administrator
- C. Involvement in teaching or administration completed within the last three years
- D. Current full-time employment with a Kentucky school district

### **Selection Process**

Those who meet the eligibility criteria must submit the following by the established deadlines stated on the application in order to participate in the selection process:

- 1. A completed application
- 2. A resume
- 3. Four confidential references
- 4. Submit a map showing current home and work county locations and travel availability if selected as an HSE

The selection process is rigorous and applicants are held to the highest standards. Candidates progress through a series of steps that serve to continuously narrow the pool of applicants from which the next cadre will be selected. The application process covers a period of five months and consists of the following steps:

#### 1. Written Assessment:

Open response questions are designed by a team of KDE experts and administered to applicants then responses are double-blind scored by KDE personnel.

#### 2. Performance Events:

Based on the written assessment scores, candidates are selected to move to the second phase of the selection process. Selected candidates participate in a full day assessment which includes a simulated HSE experience, delivery of a professional development session and a technology assessment.

#### 3. Reference Checks:

KDE personnel conduct in-depth reference checks for the applicants who successfully complete the performance events evaluation. Background checks by the Kentucky State Police Agency are also completed.

#### 4. Site Visits:

KDE representatives make visits to work sites of all applicants who advance from Step 3. The site visit includes shadowing the applicant and interviews with applicants, colleagues, students and supervisors.

#### 5. Interviews:

KDE personnel conduct an interview with each prospective candidate still remaining in consideration for placement.

### **Highly Skilled Educators Training**

Once applicants are selected as HSEs, they are required to participate in three to four weeks of training during the months of July and August. The specialized training assures that these educators have the skills and resources necessary to deliver exceptional service to schools under a variety of diverse and unique circumstances.

Additionally, trainings continue throughout the school year through monthly regional team meetings and HSE cadre training sessions that are scheduled every 6 - 8 weeks. Training topics are selected based on the needs of the schools in assistance and the HSEs' Individual Growth Plans.

### **Schools Receiving Assistance and HSE Assignment**

Highly Skilled Educators provide assistance to schools with a growth accountability index that falls below the assistance point: Level 1, Level 2, and Level 3.

Level 3 -- classification assigned to a school that has an index score that places it in the lowest one-third (1/3) of all schools below the assistance line. Level 3 schools are first priority when determining HSE assignments.

Level 2 -- classification assigned to a school that has an index score that places it in the middle one-third (1/3) of all schools below the assistance line.

Level 1 -- classification assigned to a school that has an index that places it in the highest one-third (1/3) of all schools below the assistance line.

HSE educational and professional experiences are matched with the needs of the schools in need of assistance. Geographical information is also a consideration when making placement decisions.

### **HSE Employment and Compensation**

Originally DEs were to receive as compensation 150% of their salary at the time of appointment, adjusted for twelve-month employment. In the 1994-1996 budget bill language, this was adjusted downward to 135%.

HSEs remain employees of their home district. The Kentucky Department of Education signs a Memorandum of Agreement (MOA) with the HSEs' home districts on an annual basis. MOAs are renewable for a second year and may be renewable for a third year.

HSEs continue to receive their salary, with no loss of benefits, through their home school districts. HSEs receive 135% of their current daily salary for 235 days of employment. The additional 35% is not

calculated into retirement benefits. The cap for salary changes year to year. The projected cap for first year salaries for HSEs during the 2010-2011 year is at \$100,000 - \$107,000.

### **Evaluation of Highly Skilled Educators**

HSEs remain as employees of their home district while serving in the program; therefore, traditional personnel evaluations are not conducted by KDE. Informal evaluations are used to assess the work of the HSEs on a continuing basis using the following tools:

- a. HSE monthly reports
- b. HSE mentor visits
- c. HSE cadre participation
- d. Development and presentation of HSE cadre training tools, resources and documents
- e. Anecdotal information shared by HSEs
- f. Feedback from HSE ASSIST Team Leaders
- g. Conversations with HSEs and school/district administrators
- h. HSE end of the year and/or exit reports
- i. State ASSIST accountability reports for assisted schools
- j. NCLB reports for assisted schools

### **Impact**

A study by the Partnership for Kentucky Schools entitled *Improving Low-Performing Schools: A Study of Kentucky's Highly Skilled Educators Program*, drew several conclusions about the impact and effectiveness of the Highly Skilled Educators Program. Their data found impact in four critical areas. The areas and some of the findings are below:

#### ***Curriculum and Instruction***

- a. Teachers attributed improvement in their teaching to HSEs
- b. Teachers reported that HSEs contributed to improvement in teacher knowledge of effective teaching
- c. Teachers credited HSEs with helping to improve curriculum and instructional coordination in the school
- d. Teachers credited HSEs with increasing attention to state test data

#### ***Professional Development***

a. Teachers found professional development to be more focused on curriculum and instruction and the critical needs of the school

***Leadership, School Organization and Morale***

a. Teachers believed that school leadership had improved as a result of the HSE

b. Teachers believed that the presence of an HSE improved morale, and contributed to a shared school-wide focus and a culture of collaboration that had not previously existed

***Test Scores***

a. Overall, HSE schools outperformed the rest of the schools in the state

b. A higher proportion of HSE schools (56%) met their accountability index goal than did non-HSE schools (46%)

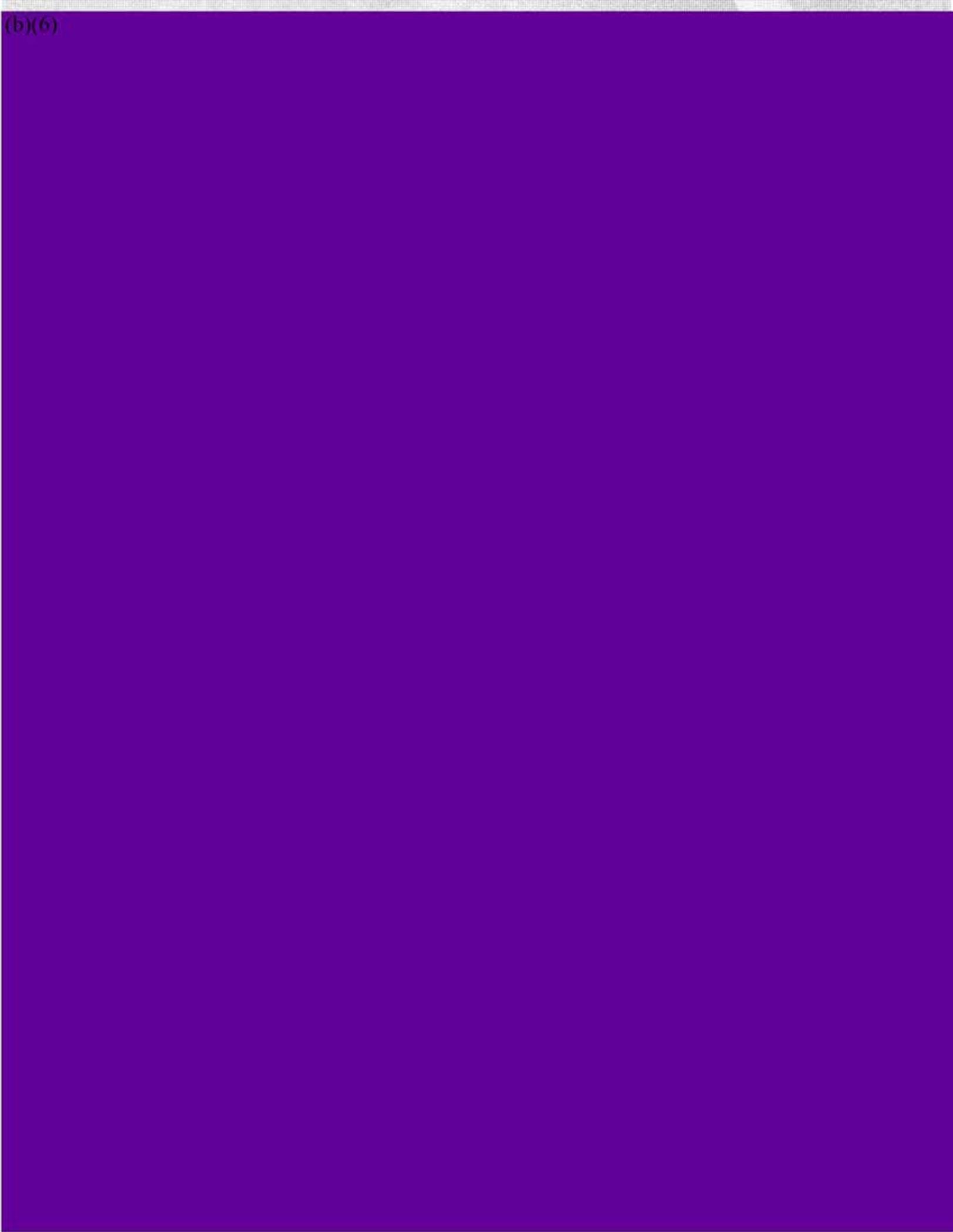
c. Thirteen percent fewer HSE schools than non-HSE schools had scores that were lower than the previous biennium

d. No HSE school remained in need of assistance while 8% of non-HSE schools fell into that category

e. Overall, HSE schools gained twice as much as the non-HSE schools

The report also provides recommendations for strengthening the program in the future.

The scope and quality of the HSE intervention turns what would otherwise be a punitive set of sanctions into assistance that is appreciated and has a positive impact on low-performing schools.

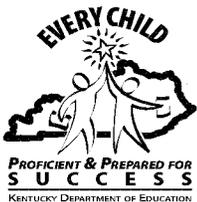


(b)(6)

# The MISSING PIECE OF THE PROFICIENCY PUZZLE

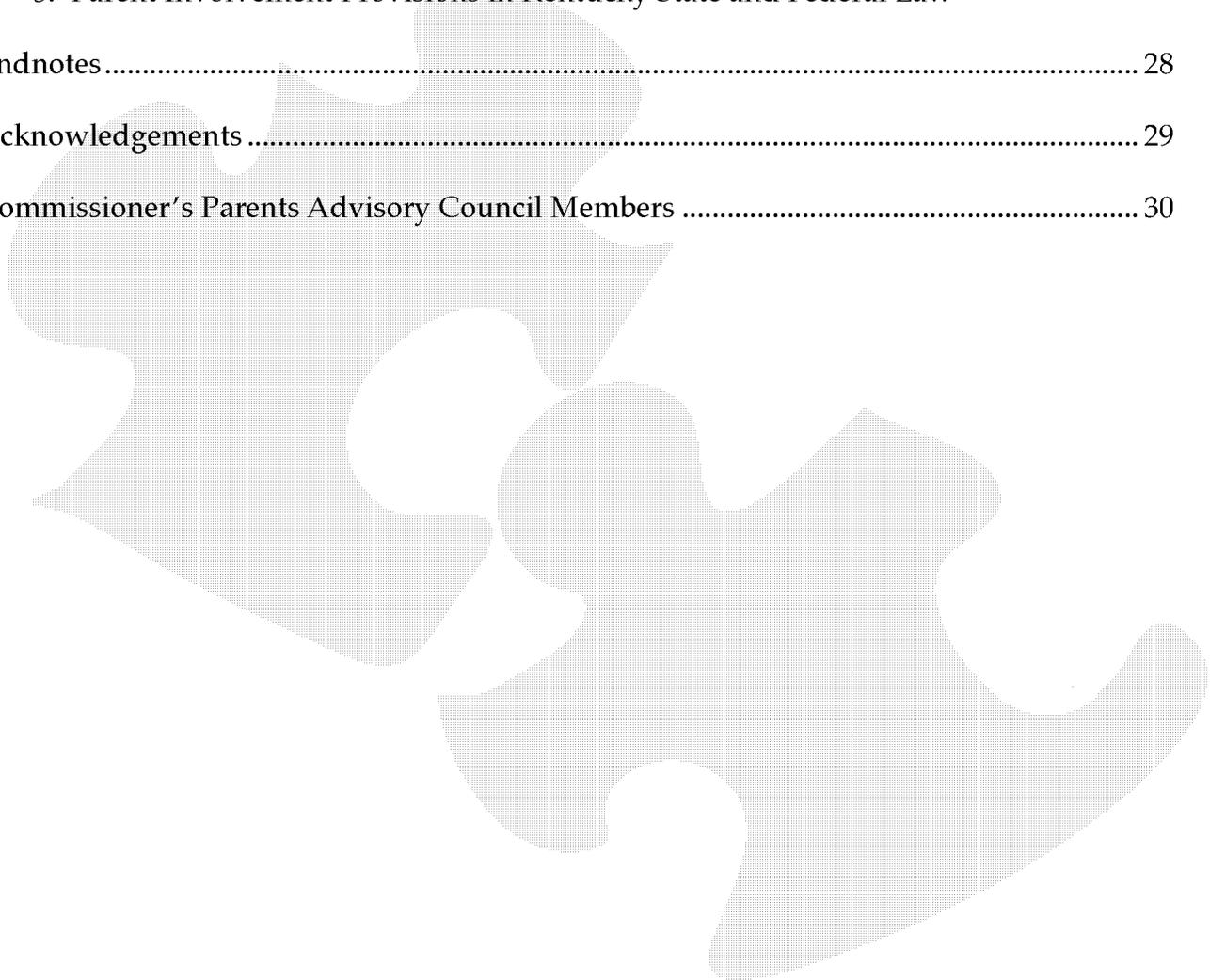
Recommendations for Involving Families and  
Community in Improving Student Achievement

Commissioner's Parents Advisory Council  
Final Report to the Kentucky Department of Education  
June 2007



# Table of Contents

Letter from the Interim Kentucky Commissioner of Education.....	1
Executive Summary .....	2
History and Mission .....	4
Why is this Important?.....	6
The Process.....	9
The Objectives.....	11
Recommendations .....	15
Follow-up and Conclusion .....	17
Appendices .....	18
1. Kentucky Family and Community Involvement Guide to Student Achievement	
2. Glossary	
3. Parent Involvement Provisions in Kentucky State and Federal Law	
Endnotes.....	28
Acknowledgements .....	29
Commissioner’s Parents Advisory Council Members .....	30





**EDUCATION CABINET  
DEPARTMENT OF EDUCATION**

**Ernie Fletcher**  
Governor

Capital Plaza Tower  
500 Mero Street  
Frankfort, Kentucky 40601  
Phone (502) 564-4770  
[www.education.ky.gov](http://www.education.ky.gov)

**Kevin M. Noland**  
Interim Commissioner of Education

Dear Friends of Education:

Although the Commissioner's Parents Advisory Council began under my predecessors and was given its current charge by Commissioner Gene Wilhoit, I and the Kentucky Department of Education staff fully share their deep commitment to increasing parent and community involvement in Kentucky schools.

I am proud of our state's accomplishments in education. The many provisions in Kentucky law for ensuring that parents and community members have a powerful voice in our public schools have, I am certain, been a wellspring of this success. But more remains to be done, and the proposed new standard for parent and community engagement in schools and recommendations for future action point the way.

Since becoming Interim Commissioner, I have attended every CPAC meeting from start to finish, and I know how dedicated its members are and how much effort they have put into their work. I am grateful to Cindy Baumert and Dennis Pearce for their leadership, and to the CPAC members for their constructive efforts and spirit of true partnership. I also commend the KDE staff for its fine work and many contributions.

The real work now lies before us. I will urge my successor to embrace this report and work closely with CPAC members and KDE staff to make our state the first in the nation to rise to proficiency in the practice of family and community engagement.

Best wishes,

A handwritten signature in cursive script that reads "Kevin M. Noland".

Kevin Noland  
Interim Commissioner  
Kentucky Department of Education

## Executive Summary

From its beginning under Commissioner Wilmer Cody in 1999, the purpose of the Commissioner's Parents Advisory Council (CPAC) has been to advise the Kentucky Department of Education on policy issues and to increase parent leadership for improving public education. CPAC has over 30 parent members from across the state, selected at the discretion of the commissioner.

On March 30, 2006, the then Commissioner Gene Wilhoit gave CPAC members this instruction: "My goal is outstanding practice to involve parents in every school in Kentucky. Your charge is to pull together an agenda for the state and produce a document that builds on what exists and pushes us to a higher level."

Building on our state's long experience with reform, CPAC strongly recommends that Kentucky become the first state in the nation to set a standard for family and community involvement that is focused on improving student achievement. This standard includes six objectives designed to involve families and the community to improve student achievement, so that our state will meet its goal of all children reaching proficiency by 2014 and thereafter. We wish to make clear that for the purposes of this report, parents and/or families means natural, adoptive or foster parents; close relatives; legal or educational guardians; and/or community or agency advocates.

In the *Kentucky Family and Community Involvement Guide to Student Achievement*, a comprehensive performance assessment tool, CPAC proposes specific school-level descriptors for each objective. These descriptors include provisions that every student in Kentucky will have a parent, or another adult, who knows how to support that student's academic achievement. The objectives are as follows:

1. **Relationship-building:** The school staff builds productive, personal relationships with parents of all students.
2. **Communications:** Two-way information in many forms flows regularly between school staff and parents about students' academic achievement and individual needs.
3. **Decision-making:** School staff encourages, supports, and expects parents to be involved in school improvement decisions and to monitor and assist school improvement.
4. **Advocacy:** For each student, the school staff identifies and supports a parent or other adult who can take personal responsibility for understanding and speaking for that child's learning needs.
5. **Learning Opportunities:** The school staff ensures that families have multiple opportunities to understand how to support their children's learning.
6. **Community Partnerships:** The school staff engages and partners with community members to plan and implement substantive work to improve student achievement.

To implement these objectives, CPAC recommends that the Kentucky Department of Education take four major actions:

1. **Set high expectations, measure performance, and report progress.** Adopt the proposed Kentucky Family and Community Involvement Guide to Student Achievement as an audit tool that can serve as a scoring guide, or rubric. In addition, incorporate these individual performance descriptors, as appropriate, into the Standards and Indicators for School Improvement (SISI) document.
2. **Help schools improve relationship-building and communications.** Encourage schools to adopt a "customer satisfaction" model by developing training modules that local districts

can use. Make data and other information on family involvement available on the KDE website, including the results of a regular statewide parent survey. Establish family and community involvement advisory councils at all levels – local, district, and state.

**3. Provide resources and support.** Develop an infrastructure for state support of districts and schools that includes training, resources, tools, and recognition for real achievement in family and community involvement. Add reader-friendly information and resources to the KDE website, including the work of the CPAC, research on parent involvement and effective practice, as well as state and community-based resources that could facilitate coordination of family involvement.

**4. Build capacity through professional development.**

- Invest in parents by providing funding for statewide parent leadership training, developing a parent education curriculum for monitoring a student’s progress, and developing a diverse network of parents who are trained and supported by the Kentucky Department of Education to act as mentors, trainers, and team members to assist Kentucky schools, districts, and parents.
- Invest in educators, through professional development, on strategies for engaging families in improving student achievement.
- Invest in collaboration by developing joint parent-teacher training on cultural competence, and by improving training for SBDM councils and audit teams on the effective use of the new objectives and performance descriptors.
- Invest in evaluation by developing measurements to assess the impact of professional development on levels of family and community involvement, teacher satisfaction, school climate, and student outcomes; and by recognizing schools and districts that have fully implemented the new objectives.

*It’s easy to become overwhelmed with the number of underachieving students. I want this report to strongly express the importance of each student needing a parent, advocate, or mentor to assist in achieving academic success. If everyone could be encouraged to first reach one student and then continue to add others, I believe we could win the battle and close the achievement gap.*

**Tina Brooks, Fayette County**

## History and Mission

From its beginning under Commissioner Wilmer Cody in 1999, the purpose of the Commissioner's Parents Advisory Council (CPAC) has been to advise the Kentucky Department of Education on policy issues and to increase positive leadership of parents for improving public education. The CPAC considers topics that are of interest to parents, especially ways that parents and communities can assist schools in raising the achievement level for all schools and every student.

The Commissioner's Parents Advisory Council has over 30 parent members from across the state, nominated by the Kentucky Parent Teacher Association, the Kentucky Association of School Councils, and the Prichard Committee for Academic Excellence. CPAC members are selected at the discretion of the Commissioner for two-year terms and meet quarterly. A majority of CPAC members have completed the Commonwealth Institute for Parent Leadership (CIPL) training offered by the Prichard Committee. In addition, many have benefitted from training provided by the PTA and Kentucky Association of School Councils. These three leadership programs have created a cadre of experienced parent leaders who have become local, district, and state PTA leaders; members of local school boards and school based decision-making councils; and members of state bodies such as the state scholastic audit team, the state textbook selection committee, and the special education legislation committee.

The Kentucky Education Reform Act (KERA) of 1990, one of the first and best-designed standards-based state education reform laws, was a landmark both for the state and the nation. KERA relied partly on National PTA Standards when the general assembly in 1990 required that parents be members of school-based decision making (SBDM) councils, making Kentucky the only state in the union with required parent involvement in key decisions about learning and instruction for all K-12 schools.

It is our state's goal that all Kentucky children, no matter where they live or what their background, will become proficient learners of the core curriculum by the year 2014 and thereafter. CPAC members see their mission as establishing as a high priority the kind of parent and community involvement that will strengthen the accountability system established by KERA and will have a positive impact on student achievement throughout Kentucky.

*Knowledgeable, informed parents from across the state have taken part in the process of writing this report. It's proof that parents understand the need for parent involvement to be a means to an end in schools, rather than an end in itself. It is our hope that this guide will help educators move to that perspective as well, so that engaging parents becomes an important strategy for improving achievement.*

**Beverly Raimondo, Fayette County**

In the 17 years since the law was passed, we have traveled more than two-thirds of the way to 2014. At its April 2007 meeting, the state board examined performance data on the progress that schools are making toward proficiency and found that fewer than half of Kentucky's public schools are projected to meet the state's accountability goal by the 2014 deadline. State Board members have determined that a "cultural change" is needed in public schools across the state and emphasized the urgency needed to ensure that Kentucky schools reach the state goal.

In 2006, roughly 51 percent of schools were meeting their goals, 37 percent were “progressing,” and 12 percent were either “progressing but declining” or “in assistance.” Data projections of performance in 2014 indicate that only 37 percent of schools will achieve the state goal. Approximately 50 percent will be progressing, and 13 percent of schools will be in assistance.<sup>1</sup>

This same concern has been building within CPAC discussions for the past few years. On March 30, 2006, the then Commissioner Gene Wilhoit personally gave CPAC members this instruction:

My goal is outstanding practice to involve parents in every school in Kentucky. Your charge is to pull together an agenda for the state and produce a document that builds on what exists and pushes us to a higher level.

The opportunity to build on Kentucky’s history as a pioneer in school improvement across an entire state was irresistible. Immediately, CPAC members began working to take this charge and make it their own. First, they developed a vision to share with the leadership of the Kentucky Department of Education, a vision centered on Kentucky children:

The vision of the Commissioner’s Parent Advisory Council is outstanding parent and community involvement practices that focus on improved student achievement and that touch all students in every Kentucky school.

Throughout our work, CPAC members have studied state and national standards, research on the impact of parent and community involvement on student achievement, and the literature on effective practice. Accordingly, the resolve was made to recommend proven practices, so that districts and schools would make available opportunities for family and community involvement that were defined by state and national standards, examined by well-designed and rigorous research, and tested through effective programs.

Building on these findings and on our state’s long experience with reform, CPAC members unanimously recommend that Kentucky become the first state in the nation to adopt comprehensive objectives and school-level performance descriptors for family and community involvement focused on improving student achievement. In the *Kentucky Family and Community Involvement Guide to Student Achievement* in Appendix 1, CPAC proposes specific school-level descriptors for each objective, which include provisions that every student in Kentucky will have a parent, or another adult, who knows how to support that student’s academic achievement. The purpose of each objective is to involve families and the community to improve student achievement, so that our state will meet its goal of all children reaching proficiency by 2014 and thereafter.

*Educational Advocacy works. We should not be afraid to say that children need the support of their parents and/or other adult advocates to become college-ready graduates and productive citizens. All students need assistance in preparation for postsecondary education or a career. It is no longer acceptable to barely pass all your high school classes and get your diploma.*

**Cindy Baumert, Jefferson County**

## Why is this Important?

Thirty years of research and a long history of federal and state legislation demonstrate the importance of parent involvement in their children's learning and development. In the No Child Left Behind Act (NCLB) of 2001, the federal government for the first time offered a definition of parent involvement:

Regular, two-way and meaningful communication about student learning and other school activities, including:

- Assisting their child's learning
- Being actively involved in their child's education at school
- Serving as full partners in their child's education and being included, as appropriate, in decision-making and on advisory committee to assist in the education of their child
- The carrying out of other activities such as those described in section 1118.
- Public Law 107-110, Title IX, Section 9109 (32)

CPAC has adopted this basic definition of parent involvement as its premise. This report further holds that schools should develop a productive relationship with every student's parent(s) or family, and provide enough resources and support so that each student will have a parent or other adult who knows and understands the following:

- The academic expectations and individual needs that must be addressed to prepare that child for post-secondary education or work
- A variety of ways to access resources to help the child meet these academic expectations and address his or her individual needs
- How to advocate for the child's educational rights under Kentucky law and federal programs such as No Child Left Behind (NCLB) and the Individuals with Disabilities Education Act (IDEA)
- The basic duties, responsibilities and benefits of serving on committees, task forces, councils, and parent organizations

This definition and these basic expectations underlie all the recommendations proposed in this report. We wish to make clear that for the purposes of this report, parents and/or families means natural, adoptive or foster parents; close relatives; legal or educational guardians; and/or community or agency advocates.

*It's the law.* Both Kentucky law and the No Child Left Behind Act require that all students must achieve proficiency in reading and math by the year 2014, that gaps between different groups of students must be eliminated, and that every school must make adequate progress each year to meet those goals. In addition, Kentucky law requires all students reach proficiency in science, social studies, writing, practical living, and arts and humanities. These laws, and additional legislation such as the federal Individuals with Disabilities Education Improvement Act (IDEA) and the state achievement gap bill (Senate Bill 168), specifically define ways in which parents are to be involved in ensuring that their child becomes a proficient learner.<sup>2</sup> (For more information about state and federal law, see Appendix 3.)

We know that our schools are staffed with dedicated, hard-working teachers and administrators, but we also know that all stakeholders must take part in the school improvement process. Disparities in parent and family engagement and in the use of community resources widen the achievement gap and contribute to poor school performance. Our state has raised its standards and expectations for students; now we must raise our expectations for parents, families and community members as well. We need a vision for parent and community involvement, one that will focus our efforts in identifying barriers and providing resources to improve achievement for all students.

*Research shows the way.* Family and community involvement can have a powerful and positive impact on student outcomes. According to *A New Wave of Evidence: The Impact of School, Family and Community Connections on Student Achievement*, a research review published by the Southwest Educational Development Laboratory in 2002,<sup>3</sup> students with involved parents, no matter what their income or background, are more likely to:

- Earn higher grades and test scores, and enroll in higher-level programs
- Be promoted, pass their classes, and earn credits
- Attend school regularly
- Have better social skills, show improved behavior, and adapt well to school
- Graduate and go on to post-secondary education

A solid body of research finds that families of all income and education levels, and from all ethnic and cultural groups, support their children's learning at home. Families with more income and education, however, tend to be more engaged at school and have more resources to help their children at home. Supporting all families to be more involved at school and better informed about what children are learning in class must become a widely-used strategy for improving learning and addressing the achievement gap.

*Programs and special efforts to engage families make a difference.* Teacher outreach to parents can result in strong, consistent gains in student performance in both reading and math. Effective outreach practices include meeting with families face to face, sending learning materials home, and keeping in touch about progress.<sup>4</sup> Workshops for parents on helping their children are linked to higher reading and math scores.<sup>5</sup> Schools with highly rated partnership programs make greater gains on state tests than schools with lower-rated programs.<sup>6</sup>

(b)(6)



*Higher performing schools effectively involve families and community.* Schools that succeed in engaging families from diverse backgrounds share three key practices:

- Focus on building trusting, collaborative relationships and two-way communications among teachers, families, and community members
- Recognize, respect, and address families' needs, as well as bridge class and cultural differences
- Embrace a philosophy of partnership where power and responsibility are shared and where families are effective advocates for their children<sup>7</sup>

*Parent leadership and community organizing efforts are improving schools.* Parent leadership training and community organizing programs, which are growing across the country, expand families'

knowledge of how the system works and how to make it work for their children. Unlike school-based parent involvement, parent leadership and community organizing programs build partnerships to support schools and hold them accountable for results. These organizing efforts have led to upgraded school facilities, improved school leadership and staffing, higher quality learning programs, new resources to improve teaching and curricula, and new funding for after-school and family support programs.<sup>8</sup>

## The Process

In July 2005, the then Commissioner Wilhoit and CPAC members concluded that current ways used by the state to measure and hold schools accountable for parent involvement are inadequate. Districts and schools are not provided with enough training and resources to employ parent involvement effectively to improve student achievement. In researching actions taken by other states, a CPAC member found an interesting precedent, *A Shared Responsibility: Recommendations for Increasing Family and Community Involvement in Schools* (2005), a report produced by the Maryland Family and Community Involvement Initiative, chaired by the state PTA.

After further discussion of how Kentucky could best approach the task of producing its own report and recommendations to improve the practice of family and community engagement across the state, CPAC invited Anne Henderson, a senior consultant with the Community Involvement Program at the Annenberg Institute for School Reform, to facilitate the process.

At the March 2006 CPAC meeting, Shaun Murphy, Branch Manager of Community Support for Students and Families at KDE, shared information about existing Department initiatives involving families and community. CPAC agreed to serve as the executive committee of a new family and community involvement initiative, to drive the work, determine logistics, and involve others in carrying out the process. CPAC members Cindy Baumert and Dennis Pearce were chosen to serve as co-chairs.

(b)(6)



Throughout the summer of 2006, Shaun Murphy and Linda Robinson, a program consultant with the 21st Century Community Learning Center Program, shared more information about current KDE initiatives. CPAC members also investigated Department data and reports on student achievement. In August, CPAC held a “data party,” where Cheri Meadows, Branch Manager

of Council Development and Planning, led a CPAC committee through an exercise of analyzing scholastic audit and review reports and other student data. The group found that while the Kentucky Standards and Indicators for School Improvement (KY SISI) have school-level performance descriptors that address parent involvement, some audit reports lacked adequate recommendations for using parent involvement to improve student achievement. (KDE uses the SISI document to conduct scholastic audits and reviews to identify opportunities for improvement and provide guidance for planning and development of comprehensive school and district improvement plans.)

CPAC members also found that in the School Report Card, data on parent involvement are limited to the number of volunteer hours and the number of voters in school council elections. There are no defined criteria for measuring these data, and accuracy differs from school to school and district to district. These data do not address the authentic participation (see box on the next page) necessary for improving student achievement.

### **Authentic Participation**

The Harvard Family Research Project has defined “authentic participation in school reform” as having seven qualities:

1. A community of parents committed to school improvement
2. Relationship of trust between parents and school staff
3. Development of parent participation and leadership skills
4. Opportunities for parents to influence the process and outcomes of an issue
5. Parent involvement in a deliberation process where all participants are on an equal footing
6. New roles for administrators and teachers as partners who listen to parents’ concerns, work with them on issues, and engage them in open dialogue
7. Changes in local administrative systems to support authentic participation

At meetings in the fall of 2006, CPAC used information gleaned from the data party to identify four areas for inquiry: communications, expectations, training, and resources. CPAC members were charged with developing each area, defining parent involvement in terms of its impact on student achievement.

*When I was concerned about instruction in my daughter’s elementary school, I started to ask questions and then join committees so I could help make decisions. Within a short time I completely understood and supported what the teachers were doing, and I was able to back up their work both at home and by volunteering at school. The best part was that it was great for my daughter. Her teachers and parents were all on the same page, supporting each others’ work and creating an environment in which she could thrive.*

**Lois Quilligan, Boyle County**

From that work, a committee of CPAC members developed six objectives for family and community involvement and drafted performance descriptors in January 2007. In February and March, a small group of CPAC members met several times to refine the six objectives and in this process created a guide that would make clear to Kentucky parents, schools, and districts the stages of performance and development they have achieved. This guide, the *Kentucky Family and Community Involvement Guide to Student Achievement* is intended to reveal the path for improvement of family and community involvement in a similar way that KDE uses the SISI document in the scholastic audit process. This group presented the guide on March 29th to the entire CPAC for review. At that meeting, CPAC decided to recommend that these performance descriptors be incorporated, where appropriate, into the KDE school improvement process as a guide for a family and community involvement audit. This guide and its objectives and descriptors are described in the next section. A full copy is included in Appendix 1.

## The Objectives

Building on Kentucky's pioneering tradition of setting high standards for students, CPAC strongly recommends that Kentucky become the first state in the nation to set a standard for family and community involvement that is focused on improving student achievement. This standard includes six objectives designed to involve families and the community to improve student achievement, so that our state will meet its goal of all children's reaching proficiency by 2014 and thereafter. We wish to make clear that for the purposes of this report, parents and/or families means natural, adoptive or foster parents; close relatives; legal or educational guardians; and/or community or agency advocates.

The basis of these objectives comes from the work of Joyce Epstein and her colleagues at the National Network for Partnership Schools which has been published by the National PTA.<sup>10</sup> The CPAC built on that work to further define how schools can involve parents and community in improving student achievement.

In addition, CPAC developed the *Kentucky Family and Community Involvement Guide to Student Achievement*, a comprehensive performance assessment tool, which proposes specific school-level descriptors for each objective so schools can make continuous improvement. These objectives and descriptors are supported by the research that CPAC reviewed<sup>11</sup> and include provisions that every student in Kentucky will have a parent, or another adult, who knows how to support that student's academic achievement.

*Working together to support students is viewed with cynicism by parents with histories of being disrespected in and outside the schools because of where they live and who they are. Awareness of that cynicism might temper harsh judgments (on both sides) and promote school activities designed to demonstrate early and often the schools' commitment to all students. Many parents and families must be convinced. My experience (on CPAC) has helped me realize the urgency and the challenge of bringing socio-economically challenged parents to the table.*

**Bani Hines-Hudson, Jefferson County**

This list includes each objective, along with the descriptors of *proficient* level school performance. The full guide appears in Appendix 1.

**1. Relationship-building: The school staff builds productive, personal relationships with parents of all their students.**

- Parents report that school staff understands and demonstrates how strong relationships with parents contribute to effective teaching and learning.
- School staff implements systematic steps to welcome the parents of new and English-as-a-Second-Language (ESL) students (for example, using home visits, personal calls or letters, open houses and/or other methods).

- Parents and other stakeholders report that they are actively welcomed when they visit the school.
- School staff implements systematic steps to encourage parents to attend school activities and participate in decisions about their children’s learning.
- School staff involves parents in personal communication about their students’ progress at least once a month.
- School staff completes needs assessment with all parents to determine resources necessary for their child’s academic success.
- All parents are asked for feedback on the school’s efforts to welcome and engage parents and the feedback is used to improve the school’s efforts.

**2. Communications: Two-way information in many forms flows regularly between school staff and parents about students’ academic achievement and individual needs.**

- School staff implements systematic efforts to inform parents about academic goals, class work, grades and homework for their children in their home language. (For example, classroom contracts, student assignment books, homework websites, and online grade books).
- School staff offers varied ways that parents can share information with teachers about their children’s learning needs. (For example, phone and e-mail contacts, offering parent conferences, making home visits, or other methods).
- School staff partners with community leaders and organizations to build parent understanding of academic expectations, school strategies, and student achievement results.
- School staff offers parents opportunities to discuss school-wide achievement issues, including assessment data, at least once a semester.
- School staff implements systematic efforts to maximize parent-teacher conference participation. (For example, offering multiple locations, convenient times, follow-up with parents who do not reply to first notices, and opportunities for student-led conferences).
- At least 50 percent of parents respond to annual school and/or district stakeholder surveys.
- Stakeholder survey data is consistently used to plan school improvement efforts and to evaluate their effectiveness.

**3. Decision-making: School staff encourages, supports and expects parents to be involved in school improvement decisions and to monitor and assist school improvement.**

- The school staff offers professional learning community opportunities, workshops, and easily accessible written information to equip parents for service on the SBDM council and committees.
- School council and committees facilitate broad parent participation by actively recruiting diverse membership, providing interpreters and translated materials when needed, setting convenient meeting times, and seeking wide parent input. At least 40 percent of parents vote in SBDM parent election.
- Parents on the SBDM council and committees engage and mentor many other parents by reporting to multiple groups and seeking input through surveys, meetings, and varied other methods.
- The school council adopts measurable objectives and plans coherent strategies to build authentic parent participation, and the school council monitors the implementation and impact of that work.
- School council policies ensure active roles for parents on SBDM council and committees, and other groups making decisions about school improvement.
- Parents report that they are treated as valued partners on school leadership teams,

SBDM council and committees, the school council, and other groups making decisions about school improvement.

- School staff has a plan to identify new and experienced parent leaders who support and build capacity for parents to serve effectively on the school council and committee work.

**4. Advocacy: For each student, the school staff identifies and supports a parent or another adult who takes personal responsibility for understanding and speaking for each child's learning needs.**

- School staff ensures every student has a parent and/or another adult who knows how to advocate, or speak up for them, regarding the student's academic goals and individual needs.
- Most parents participate actively in student led conferences or other two-way communication about meeting their child's individual learning needs.
- Parents report participating actively and effectively in required planning for individual learning, for example, Individual Education Plans, Individual Learning Plans, Gifted Student Plans, 504 Plans, and intervention strategies to ensure college readiness (Senate Bill 130).
- School staff gives parents clear, complete information on the procedures for resolving concerns and filing complaints, and the council reviews summary data on those complaints to identify needed improvements.
- School staff ensures that parents and community members are well informed about how to become educational advocates, or how to access a trained educational advocate when needed.
- As students are identified by school staff as having disabilities or performing at the novice level, additional intentional steps are taken to ensure that parents have the option to use a trained advocate to assist them in speaking for their child's needs.

**5. Learning Opportunities: School staff ensures that families have multiple learning opportunities to understand how to support their children's learning.**

- Parents have multiple opportunities to learn about and discuss the following:
  - Kentucky standards and expectations for all students
  - The school's curriculum, instructional methods, and student services
  - The school's decision-making process, including opportunities for parents to participate on SBDM councils and committees
  - Their children's learning and development, along with legal and practical options for helping their children succeed, such the IEP and/or ILP process
  - Community resources to support learning
  - Opportunities to participate in state and district school improvement efforts, such as forums, committees, and surveys
- School staff makes systematic use of written communications (for example, newsletters, websites, and bulletin boards) to help parents understand their own children's progress and the progress of the school.
- School staff displays proficient student work with scoring guides to demonstrate academic expectations to parents and students, and updates the displays regularly.
- School staff offers parent workshops and meetings in convenient locations to help parents develop skills in supporting their children's learning and the school's improvement efforts.
- School council has a classroom observation policy that welcomes families to visit all classrooms.
- School staff develops parent leaders who contribute regularly to other parents' understanding and who help meet other parent learning needs.

**6. Community Partnerships: The school staff engages and partners with community members to plan and implement substantive work to improve student achievement.**

- School leadership regularly shares information on student achievement and involves business and community leaders in school improvement efforts.
- School leadership develops partnerships with several businesses, organizations, and agencies to support student learning and create mentors for students and parents.
- School leadership collaborates with employers to support parent and volunteer participation in students' education.
- School staff collaborates with businesses, organizations, and agencies to address individual student needs and shares that information with parents.
- Parents make active use of the school's resources and community resources and report that they provide meaningful help to resolve family challenges that could interfere with student learning. (For example, FRYSC or Title I coordinators connect family with community resources and follow up.)
- School staff offers and publicizes community-based learning activities aligned with the curriculum, such as tutoring linked to the curriculum and internships, for all students and parents.

(b)(6)

*Productive working relationships lead to effective communication, enabling families to become partners in decision-making. When sound decisions are made putting the school on track to serve all students well, policies will be in place to support and encourage advocacy, learning opportunities, and community partnerships.*

**Carol Edelen, Jefferson County**

The objectives and school-level performance descriptors proposed in the attached *Kentucky Family and Community Involvement Guide to Student Achievement* follow the four ratings used in the Kentucky assessment of student performance: novice, apprentice, proficient, and distinguished. CPAC hopes that this rating system will allow schools to identify opportunities for improvement and will offer guidance for improving their practice of family and community involvement.

## Recommendations

To implement these objectives, the Commissioner’s Parents Advisory Council recommends that the Kentucky Department of Education take four major actions:

### 1. Set high expectations, measure performance, and report progress.

Adopt the *Kentucky Family and Community Involvement Guide to Student Achievement* as a scoring guide, or rubric, for measuring continuous improvement. The guide includes performance descriptors that identify how schools can assess their family and community involvement procedures, policies, and other efforts toward improving student achievement. This guide can be used in a similar manner as the culture, equity, and school safety audits. In addition, CPAC recommends that these individual performance descriptors be incorporated as appropriate into the KDE SISI document.

### 2. Help schools improve relationship-building and communications.

KDE should encourage schools to adopt a “customer satisfaction” model in order to become welcoming and family-friendly, build relationships, and to develop a system of two-way exchange of information and ideas.

- Make data on family and community involvement available on the KDE website and in other media and formats.
- Implement a systemic, on-going statewide student, parent and community survey to yield required information for KDE and to build a database for further analysis and research.
- Develop a “Frequently Asked Questions” feature on the state and district websites that includes school or district communication policies and processes.
- Develop “customer satisfaction” training modules that districts can use for school staff.
- Establish Student, Family and Community Involvement Advisory Councils at all levels – local, district and state.

### 3. Provide Resources and Support.

Develop an infrastructure for state support that includes training, resources, tools, and recognition for real achievement in family and community involvement. The department charged with coordinating this effort should have direct access to the commissioner.

- Offer incentives and recognition for exemplary practice that has resulted in improved outcomes for students, including student achievement.
- Add a section to the KDE website that includes the work of the CPAC, research on parent involvement, and effective practice in reader-friendly language.
- Identify and categorize community-based resources that could be used to facilitate coordination of family involvement with public school staff.
- Identify and categorize state resources that could be used to facilitate coordination of family involvement, such as categorical funding programs including Title I, IDEA, the 21st Century Community Learning Centers and Family Resource and Youth Service Centers.

### 4. Build capacity through professional development

Administrators, teachers, other school staff, and parent leaders need to acquire knowledge, skills, and resources to work together productively to improve student achievement.

#### Invest in parents:

- Introduce legislation to provide funding for statewide parent leadership training and a network of support. Cover parents’ rights as well as responsibilities.

- Develop a parent education curriculum that parallels the student's progress from pre-school to graduation.
- Develop a diverse network of parents who are trained and supported by the Kentucky Department of Education to act as mentors, trainers, and team members to assist Kentucky schools, districts, parents, and community groups in the involvement tasks necessary to support each Kentucky child to reach proficiency.

**Invest in educators:**

- Add strategies for engaging families in improving student achievement to existing professional development programs for administrators and teachers
- Include proficient performance rubric in E-walk tool. Offer embedded professional development on effective strategies to engage families in schools.
- Offer incentives for professional organizations to develop and offer professional development on parent/ family involvement.

**Invest in collaboration:**

- Implement joint parent/ teacher training in cultural responsiveness.
- Incorporate family and community members in school level professional learning communities.
- Include teachers in training programs for working with community resources and developing relationships with families in their neighborhoods.
- Improve the training of SBDM councils to include effective use of objectives and performance descriptors.
- Improve the training of audit teams to include effective use of objectives and performance descriptors.
- Sponsor and or host community parent involvement forums.

**Invest in evaluation:**

- Develop measurements and a monitoring plan to assess the impact of professional development on parent involvement.
- Identify schools and districts that have fully implemented the objectives and performance descriptors and assess the impact on levels of family and community involvement, teacher satisfaction, school climate, and student outcomes.

*While I was campaigning for a position on my local school board, several residents in my community expressed how disconnected they felt to the school system because they did not have children in the school. They also said they would like to participate and possibly contribute financially to our school if someone would simply take the time to keep them informed.*

**Tina C. Crase,  
Walton-Verona Independent Schools**

## Follow-up and Conclusion

As a pioneer in the national standards-based education reform movement, Kentucky's example has been an inspiration to other states. In this spirit, CPAC has created a *Kentucky Family and Community Involvement Guide to Student Achievement* that includes these six objectives and performance descriptors for continuous improvement in family and community involvement in schools to assist KDE in reaching the state's goals for student achievement. All our members look forward to a continued collaboration with KDE staff to bring these proposals to life.

Because CPAC is a standing council, not a committee charged with a single task, we anticipate working on a number of related initiatives in the future, as the new Commissioner of Education may request and our members will propose. On the drawing board are a new state parent and community involvement policy, guidelines for districts and schools, an annual or bi-annual state survey of parent satisfaction, and tool kits for school and parent leaders.

We hope this report will help to unleash a powerful wave of activity in our schools and a great leap forward in student achievement. The future of our state depends on it.

*When I was state PTA president and traveling around Kentucky, it amazed me how many parents were eager to be a part of their child's educational life but were not given that chance. I believe these six objectives will set a high standard for teachers and administrators to open the door to these parents.*

**Sharon Whitworth, Spencer County**

# Appendices

## Appendix 1. Kentucky Family and Community Involvement Guide to Student Achievement

### Objective 1: Relationship-building School staff builds productive, personal relationships with parents\* of all their students.

Distinguished	Proficient	Apprentice	Novice
<p>Teachers and staff have developed collaborative partnering relationships with all parents and students to improve teaching and learning.</p> <p>Administrators and school staff welcome and actively seek parents of all new and ESL students to encourage early relationship building.</p> <p>District and school staff provide training to involve all stakeholders in the process of improving the interaction between school, home and community.</p> <p>Parents and community stakeholders have authentic participation, help plan and implement school and district improvement activities.</p> <p>District and school staffs encourage continuous and meaningful communication with all parents about their student's academic goals and progress.</p> <p>District and school staff identify family interests, needs and barriers and provides services to ensure academic success.</p> <p>Student/family feedback data on school welcoming and engagement efforts is retained in a useable confidential format and can be retrieved for district or school assistance to families.</p>	<p>Parents report that school staff understands and demonstrates how strong relationships with parents contribute to effective teaching and learning.</p> <p>School staff implements systematic steps to welcome the parents of new and ESL students (for example, using home visits, personal calls or letters, open houses, and/ or other methods).</p> <p>Parents and other stakeholders report that they are actively welcomed when they visit the school.</p> <p>School staff implements systematic steps to encourage parents to attend school activities and participate in decisions about their children's learning.</p> <p>School staff involves parents in personal communication about their students' progress at least once a month.</p> <p>School staff completes needs assessment with all parents to determine resources necessary for their child's academic success.</p> <p>All parents are asked for feedback on school's efforts to welcome and engage parents, and the feedback is used to improve school's efforts.</p>	<p>Parents report their relationship with school staff is about discussing student academic performance and/ or behavior.</p> <p>Relationships with parents of new and ESL students are informal, occasional or accidental, and information is provided if requested.</p> <p>Some parents report they are welcome to visit school.</p> <p>Parents are invited to attend school activities related to their own child and are encouraged to attend parent teacher conferences.</p> <p>Administrators and school staff are available to parents by appointment only to discuss their student's progress.</p> <p>Teachers informally collect some student needs data and some parents are contacted to discuss those needs.</p> <p>Staff occasionally asks for feedback on school's efforts to welcome and engage parents, in an informal or casual way with no regular data collection.</p>	<p>Parents report that teacher/ parent relationships are limited to discipline issues and/ or reports of poor academic performance.</p> <p>School staff has limited involvement with parents of new and ESL students.</p> <p>Parents report that school staff makes little effort to welcome parents or community members when they visit the school.</p> <p>Parents receive information on school activities and are invited to conference if child is not doing well.</p> <p>Most communication from administrators is regarding safety and discipline issues.</p> <p>School staff has no plan for gathering information about students' learning needs.</p> <p>Student/ family feedback is not included in any assessment of the school's efforts to welcome and engage parents.</p>

\* By parent or family, we mean a natural, adoptive or foster parent; or other adult serving as parent, such as a close relative, legal or educational guardian, and/ or a community or agency advocate

## Objective 2: Communications

### Two-way information in many forms flows regularly between school staff and parents\* about students' academic achievement and individual needs.

Distinguished	Proficient	Apprentice	Novice
<p>Multiple two-way communications in the home language are used to communicate academic goals, class work, and homework, and grades. (See Proficient examples.)</p> <p>District/school staff, parents and community stakeholders work together to learn from and use all resources available to meet the student's and parent's learning needs.</p> <p>School and district staffs use several strategies to involve community leaders to assist in parent education on issues directly related to student achievement.</p> <p>District and school leadership ensure that student achievement is discussed each semester with all parents.</p> <p>A conference is held twice a year for all students and includes parent or advocate, student and teachers. School council develops ways to address data that is collected.</p> <p>District and school culture audits or surveys are conducted each year with all stakeholders and response rate is at least 75%.</p> <p>Stakeholders help plan district and school survey content regarding school performance as it relates to their child.</p>	<p>School staff implements systematic efforts to inform parents about academic goals, class work, grades and homework for their children in their home language. (For example, using classroom contracts, student assignment books, homework websites, and online grade books.)</p> <p>School staff offers varied ways that parents can share information with teachers about their children's learning needs. (For example, phone and e-mail contacts, offering parent conferences, and making home visits.)</p> <p>School staff partners with community leaders and organizations to build parent understanding of academic expectations, school strategies, and student achievement results.</p> <p>School staff offers parents opportunities to discuss school-wide achievement issues, including assessment data, at least once a semester.</p> <p>School staff implements systematic efforts to maximize parent-teacher conference participation. (For example, offering multiple locations, convenient times, follow-up with parents who do not reply to first notices, opportunities for student-led conferences.)</p> <p>At least 50% of parents respond to annual school and /or district stakeholder surveys.</p> <p>Stakeholder survey data is consistently used to plan school improvement efforts and to evaluate their effectiveness.</p>	<p>School staff relies on one-way communication in English to inform parents about academic goals, class work, grades and homework. (For example, newsletters, marquees, and agendas.)</p> <p>School staff uses informal conversation and /or a parent teacher conference to listen to parents or inform parents of students' learning needs.</p> <p>School staff sometimes provides community organizations with information about academic expectations for parents who use their services.</p> <p>Student achievement data or achievement results are communicated informally to parents by school staff.</p> <p>Parent-teacher conferences are held twice a year on school grounds and some teachers send invitations to parents.</p> <p>District-wide stakeholder surveys are given to parents and teachers encourage parents to respond.</p> <p>School staff develops a survey that is sent to parents, with low response rate and results are reported in school improvement plan.</p>	<p>School staff uses only one-way communication with parents to inform them about student work. (For example, student report cards and behavior reports.)</p> <p>Parents receive information about student's learning needs when the student is failing academically.</p> <p>School staff rarely provides general information to the community about academic expectations of students.</p> <p>School staff, as mandated by law, addresses data on student achievement.</p> <p>Optional parent-teacher conferences are offered at school and parents are notified if a teacher wants to conference.</p> <p>Parents are not encouraged to give feedback on school or student performance.</p> <p>School staff develops a short survey that is distributed to parents, response rate is low and results are not shared with all stakeholders.</p>

\* By parent or family, we mean a natural, adoptive or foster parent; or other adult serving as parent, such as a close relative, legal or educational guardian, and /or a community or agency advocate

### Objective 3: Decision-making

#### School staff encourages, supports and expects parents to be involved in school improvement decisions and to monitor and assist school improvement.

Distinguished	Proficient	Apprentice	Novice
<p>All stakeholders are provided with multiple opportunities to learn about the decision-making process and to participate at all levels including professional learning communities, school council, and its committees</p> <p>School council and committees have all stakeholder groups represented, provide interpreters and translated materials, meetings are well publicized and convenient. At least 60% of parents vote in SBDM parent election.</p>	<p>School staff offers professional learning community opportunities, workshops, and accessible written information to equip parents for service on SBDM council and committees.</p> <p>School council and committees facilitate broad parent participation by actively recruiting diverse membership, providing interpreters and translated materials, setting convenient meeting times, seeking wide parent input. At least 40% of parents vote in SBDM parent election.</p>	<p>Parents elected to serve on school council and some other parents who serve on SBDM committees are invited to attend training offered by school or district.</p> <p>School council and committees have some parent members, may provide translators, meet at time and place convenient to staff. Elections are held at convenient times and are publicized, but less than 20% of the parents vote in SBDM parent election.</p>	<p>Parents elected to serve on school council are invited to attend basic district training. No effort to include other parents on SBDM committees.</p> <p>School council has parent members as required by law, parents are not asked to serve on committees, meeting time and place is determined by principal. Low voter turnout for SBDM parent election.</p>
<p>School council seeks all parents' input and mentors participation through multiple sources and seeks all stakeholder groups' involvement.</p> <p>Parents and community stakeholders are trained in academic achievement planning and authentic participation, with school council regularly checking the implementation and impact of that work.</p>	<p>Parents on the SBDM council and committees engage and mentor many other parents by reporting to multiple groups and seeking input through surveys, meetings, and varied other methods.</p> <p>School council adopts measurable objectives and plans coherent strategies to build authentic parent participation, and the school council monitors the implementation and impact of that work.</p>	<p>School council chair reports feedback to head of largest parent organization who then decides further dissemination methods or input. There is no provision for parent input other than as required by school law.</p> <p>School council has some parent involvement components and action items that deal with specific academic areas. Little or no funding is provided. Little or no implementation and impact checking is done.</p>	<p>School council chair sends council minutes to largest parent organization with no follow-up.</p> <p>School council has some parent involvement action items imbedded in a few components. They are usually not measurable, have little to no funding, and consistent implementation and impact checking is not done.</p>
<p>School council actively recruits parents to serve on committees related to school improvement that review and revise objectives continuously and is informed by data.</p> <p>Parents and stakeholders are trained to create, measure and sustain authentic participation in all areas of school improvement at School and district level.</p>	<p>School council policies ensure active roles for parents on SBDM committees, in school improvement planning, and also in decisions about the education of their individual children.</p> <p>Parents report that they are treated as valued partners on school leadership teams, SBDM council and committees, and other groups making decisions about school improvement.</p>	<p>School council encourages parents to serve only on SBDM committees that deal with parent involvement and/or school climate.</p> <p>Parents report that they are sometimes encouraged to take part in discussions about school improvement.</p>	<p>School council does not encourage parent participation on SBDM committees or school planning.</p> <p>Staff and parents have no knowledge of authentic participation.</p>
<p>School staff fosters a community of stakeholders and parents who continually sustain and support each other in school council and committee work.</p>	<p>School staff has a plan to identify new and experienced parent leaders who support and build capacity for parents to serve effectively on the school council and in committee work.</p>	<p>School staff provides opportunities for outgoing parent council members to meet with new parent council members to share knowledge of serving on the council.</p>	<p>Teachers share information from year to year with parents who serve on the school council and/or overlaps council terms of parents.</p>

\* By parent or family, we mean a natural, adoptive or foster parent; or other adult serving as parent, such as a close relative, legal or educational guardian, and/or a community or agency advocate

**Objective 4: Advocacy**  
**For each student, school staff identifies and supports a parent\* or another adult who can take personal responsibility for understanding and speaking for that child's learning needs.**

Distinguished	Proficient	Apprentice	Novice
<p>District and school staff supports a community of trained parents and advocates who work together to ensure all students are meeting their academic goals and learning needs.</p> <p>District and school staff partners with all parents and advocates to discuss, monitor and share successful strategies for meeting individual learning needs</p> <p>Parents report that district and school staff facilitates sharing of ideas and training to effectively participate in developing IEPs, ILPs, GSPs, 504 plans and interventions for college readiness.</p> <p>School staff collaborates with stakeholders in developing policies and procedures to resolve issues and complaints and to identify needed improvements.</p>	<p>School staff ensures every student has a parent and/or another adult who knows how to advocate, or speak up for them, regarding the students academic goals and learning needs.</p> <p>Most parents participate actively in student led conferences or other two-way communication about meeting their child's individual learning needs.</p> <p>Parents report participating actively and effectively in required planning for individual learning, for example, Individual Education Plans, Individual Learning Plans, Gifted Student Plans, 504 Plans, and intervention strategies to ensure college readiness (Senate Bill 130).</p> <p>School staff gives parents clear, complete information on the procedures for resolving concerns and filing complaints, and the council reviews summary data on those complaints to identify needed improvements.</p>	<p>There is evidence that school staff know which students have a parent or another adult who can speak up for them regarding their academic goals and learning needs.</p> <p>Some parents are involved in informal conversation with school staff to address their child's individual learning needs.</p> <p>Parents report that they are invited to attend meetings to discuss Individual Education Plans, Individual Learning Plans, 504 plans and/or intervention strategies.</p> <p>School council has a policy and a process to resolve issues or complaints and outcomes are sometimes tracked and reported to the council.</p>	<p>School staff does not know which students have a parent or another adult who can speak up for them regarding academic goals and learning needs.</p> <p>School staff does not involve parents to address their child's learning needs. School staff only informs parents of student's academic progress.</p> <p>Parents report that they are informed as required by law to participate in Individual Education Plans, Individual Learning Plans, and intervention strategies.</p> <p>Teachers handle parent complaints but outcomes are not tracked or reported.</p>
<p>District and school staff ensure that parents and community members are trained to serve as educational advocates or to access trained educational advocates for students to meet their academic goals.</p> <p>District and school staff partners with advocates of students with disabilities and/or novice level performance to improve the way school meets student learning needs.</p>	<p>School staff ensures that parents and community members are well informed about how to become an educational advocate or how to access an educational advocate when needed.</p> <p>As students are identified by school staff as having disabilities or performing at the novice level, additional intentional steps are taken to ensure that the parent has the option to use a trained advocate to assist them in speaking for their child's needs.</p>	<p>School staff makes minimal effort to encourage parents to advocate for their child's academic success.</p> <p>Novice level students are identified by school staff to receive targeted strategies for academic improvement. Parents are informed of the strategies but do not receive training on how to use those strategies or how progress will be measured.</p>	<p>School staff puts forth no effort to encourage parents to advocate for their child's academic success.</p> <p>Some teachers provide additional help or strategies to novice learners in their classroom but do not inform the parents about strategies used.</p>

\* By parent or family, we mean a natural, adoptive or foster parent; or other adult serving as parent, such as a close relative, legal or educational guardian, and/or a community or agency advocate

## Objective 5: Learning Opportunities

### School staff ensures that families have multiple learning opportunities to understand how to support their children's learning.

Distinguished	Proficient	Apprentice	Novice
<p>District and school leadership involve all stakeholders, use many community resources and opportunities to explain standards and rights as defined under Proficient, and expects that all parents will have adequate information and understanding of these practices. Parents with barriers to learning are individually assisted.</p> <p>All stakeholders are engaged in conversation and written communication about the academic progress of all students in school and district.</p> <p>School staff exhibits and rotates proficient and distinguished work and provides resources to achieve at higher levels.</p> <p>District and school staffs collaborate with parents and community members to provide training on how to support children's learning, district and school improvement efforts.</p> <p>School staff has posted council policy on classroom visits, with access to all classrooms.</p> <p>Parent leaders regularly work with all parents to develop ways to improve parent understanding of learning issues.</p>	<p>Parents have multiple opportunities to learn about and discuss:</p> <ul style="list-style-type: none"> <li>• Kentucky standards and expectations for all students.</li> <li>• School's curriculum, instructional methods, and student services.</li> <li>• School's decision-making process, including opportunities to participate on SBDM councils and committees.</li> <li>• Their children's learning and development, along with legal and practical options for helping their children succeed such as participation in IEP and/or ILP process.</li> <li>• Community resources to support learning.</li> <li>• Opportunities to participate in state and district school improvement efforts, such as forums, committees, and surveys.</li> </ul> <p>School staff makes systematic use of written communications (for example, newsletters, Web sites, bulletin boards) to help parents understand their own children's academic progress and the progress of school.</p> <p>School staff displays proficient student work with scoring guides to demonstrate academic expectations to parents and students, and updates the displays regularly.</p> <p>School staff offers parent workshops or meetings in convenient locations to help parents develop skills in supporting their children's learning and school's improvement efforts.</p> <p>School council has a classroom observation policy that welcomes families to visit all classrooms.</p> <p>School staff develops parent leaders who contribute regularly to other parents' understanding and who help meet other parent learning needs.</p>	<p>School provides open house and family nights for some parents to learn about:</p> <ul style="list-style-type: none"> <li>• Kentucky standards and expectations for all students.</li> <li>• School's curriculum, instructional methods, and student services.</li> <li>• School's decision-making process, including opportunities for parents to participate on councils and SBDM committees.</li> <li>• Their children's learning and development, along with legal and practical options for helping their children succeed such as participation in IEP and/or ILP process.</li> <li>• Community resources to support learning.</li> </ul> <p>School staff provides parents with information about their child's academic progress and the progress of the school.</p> <p>School staff exhibits some student work with scoring guide and proficient level work.</p> <p>School staff offers targeted parent workshops and meetings to help parents develop skills to support their child's learning.</p> <p>School council has a classroom observation policy that allows parents access to most classrooms by appointment only.</p> <p>School staff relies on the parent organizations to provide learning opportunities for parent leadership.</p>	<p>School provides one open house a year and offers some written materials about:</p> <ul style="list-style-type: none"> <li>• Kentucky standards and expectations for all students.</li> <li>• School's decision-making process, including opportunities for parents to participate on councils and SBDM committees.</li> </ul> <p>School staff provides parents only with information mandated by reporting requirements on student achievement.</p> <p>Some student work of various levels is exhibited in the classroom.</p> <p>School staff offers some information to parents to learn how to support their child's learning.</p> <p>School staff allows parents to visit regular education classrooms upon request. There is no school policy.</p> <p>There is little or no development of parent leaders.</p>

\* By parent or family, we mean a natural, adoptive or foster parent; or other adult serving as parent, such as a close relative, legal or educational guardian, and/or a community or agency advocate

**Objective 6: Community Partnerships**  
**School staff engages and partners with community members to plan and implement substantive work to improve student achievement.**

<b>Distinguished</b>	<b>Proficient</b>	<b>Apprentice</b>	<b>Novice</b>
<p>School staff networks and partners with multiple businesses and organizations to support student achievement at a school council and a programmatic level.</p> <p>District and school staff leverages all partnerships to gain maximum benefit to support all students learning from the human and financial resources available.</p> <p>School leadership and council compacts with an employer network that promotes adult participation in education.</p> <p>District and school staffs collaborate with all willing organizations to support parents and advocates in addressing individual student needs.</p> <p>School staff and parents have seamless integration of consistent and sustained family support services from school and the community to reduce student barriers to learning.</p> <p>District staff and school leadership ensures all stakeholders are aware of community-based learning opportunities that are linked to student-specific needs.</p>	<p>School leadership regularly shares information on student achievement and involves business and community leaders in school improvement efforts.</p> <p>School leadership develops partnerships with several businesses, organizations, and agencies to support student learning and create mentors for students and parents.</p> <p>School leadership collaborates with employers to support parent and volunteer participation in students' education.</p> <p>School staff collaborates with businesses, organizations, and agencies to address individual student needs and shares that information with parents.</p> <p>Parents make active use of school and community resources and report that they provide meaningful help to resolve family challenges that could interfere with student learning. (For example, FRYSC or Title I coordinators connect family with community resources and follow up.)</p> <p>School staff offers and publicizes community-based learning activities, such as tutoring linked to the curriculum, for all students and parents.</p>	<p>School leadership periodically meets with some business leaders to discuss information on student achievement.</p> <p>Some teachers ensure that students participate in programs within the community that are linked to student learning.</p> <p>Employer-partners adopt practices to promote and support parent and volunteer participation in students' education.</p> <p>School staff occasionally collaborates with community agencies to address individual student needs. Information is provided to parents upon request.</p> <p>Parents are made aware of family support services in school and in the community that are provided for students. (For example, families know about community resources through school coordinators but it is up to the family to access those resources.)</p> <p>School staff maintains a resource directory on some agencies, programs and services that will provide services for students.</p>	<p>School leadership informs the community once a year about student achievement. (For example, letters to editor or newspaper article).</p> <p>After school programs are offered to some students.</p> <p>School leadership rarely invites employers to support adult participation in education.</p> <p>Staff sometimes collaborates with community agencies to address general student academic needs.</p> <p>Parents are given information about community resources from school program coordinators or school staff.</p> <p>School staff rarely updates or communicates with local agencies or programs that provide learning services.</p>

\* By parent or family, we mean a natural, adoptive or foster parent; or other adult serving as parent, such as a close relative, legal or educational guardian, and / or a community or agency advocate

## Appendix 2. Glossary

CDIP	Comprehensive District Improvement Plan
CIPL	Commonwealth Institute for Parent Leadership, a program operated by the Prichard Committee for Academic Excellence
CPAC	Commissioner's Parent Advisory Council
CPL	Center for Parent Leadership, a program of the Prichard Committee for Academic Excellence
CSIP	Comprehensive School Improvement Plan
FRYSC	Family Resource and Youth Services Center
GSP	Gifted Student Plan
ILP	Individual Learning Plan
KASC	Kentucky Association of School Councils
KERA	Kentucky Education Reform Act of 1990
KDE	Kentucky Department of Education
KPTA	Kentucky Parent-Teacher Association
PTA	Parent-Teacher Association
Parent	A natural, adoptive or foster parent or other adult serving as parent, such as a close relative; a legal or educational guardian; and/ or a community or agency advocate
PLC	Professional Learning Community is composed of collaborative teams whose members work interdependently to achieve common goals linked to the purpose of learning for all.
SA	Scholastic Audit
SBDM	School-Based Decision Making
School Staff	All full and part-time regular permanent employees of the school.
School leadership	Principal, school based decision making councils, department chairperson(s), team leaders, committee chairperson(s), coordinators of special programs parent organizations, support centers, the instructional team, and the administrative team.

## Appendix 3: *Parent Involvement Provisions in Kentucky State and Federal Law*

### Kentucky Law

Kentucky's commitment to family involvement is strong and clear: "The General Assembly recognizes that public education involves shared responsibilities. State government, local communities, parents, students, and school employees must work together to create an efficient public school system. Parents and students must assist schools with efforts to assure student attendance, preparation for school, and involvement in learning. The cooperation of all involved is necessary to assure that desired outcomes are achieved . . ." (KRS 158.645)

Kentucky's education law recognizes the importance of parent involvement in a number of different statutes, including the landmark Kentucky Education Reform Act (KERA).

- KERA requires that parents be members of school-based decision making (SBDM) councils, which make key decisions about learning and instruction. Parents also must be involved in setting targets and developing plans to close achievement gaps. (KRS 160.345) For the purpose of SBDM, parents are defined as "parents, step-parents, or foster parents, or a person who has legal custody of a student and with whom the student resides." (KRS 160.345)
- Yearly school and district report cards are required by state law (as well as in NCLB) to give parents and citizens more information about their schools. (KRS 158.6453)
- Kentucky school law provides for family resource and youth services centers (FRCs at elementary schools and YSCs at middle and high schools), based at local schools with at least 20 percent of low-income students. FRCs and YSCs must have advisory councils, with at least one-third parent members. (KRS 156.497)
- Kentucky law also requires parent involvement in the preschool and primary programs. A "critical attribute" of the primary program is "positive parent involvement." (KRS 158-031) The preschool program requires that schools involve parents. (KRS 157.3175)

The Achievement Gap Bill, Senate Bill 168 (KRS 158.649), enacted in 2002, requires all schools to close achievement gaps, which are defined as a "substantive performance difference" in all subject areas on Kentucky's test for accountability by gender, disability, English proficiency, race, and poverty.

- In schools with substantive achievement gaps, school councils must establish targets and plans every two years to close the gaps.
- Schools failing to meet targets after the first two-year cycle must submit plans to the superintendent for review and approval.
- Parents, faculty, and staff must be involved in establishing the targets and plans for closing achievement gaps.
- Public meetings at the school and district levels must be held to report on progress and plans.

The Readiness Examination Bill, Senate Bill 130 (KRS 158.6453), enacted in 2006, requires a high school or college readiness exam at the expense of the Kentucky Department of Education. The assessment program shall include:

- A high school readiness examination to assess English, reading, mathematics, and science in grade 8;
- A college readiness examination to assess English, reading, mathematics, and science in grade 10;

- The ACT college admissions and placement examination to assess English, reading, mathematics, and science, to be taken by all students in grade 11.

A student whose scores on the high school readiness examination indicate readiness shall be counseled to enroll in accelerated courses; and a student whose scores on the college readiness examination administered in grade 10 or the ACT college admissions and placement examination administered in grade 11 indicate a high degree of readiness for college shall be counseled to enroll in accelerated courses, with an emphasis on Advanced Placement classes.

Students in grades 10, 11, and 12 may take the WorkKeys assessments from ACT, Inc. in reading for information, locating information, and applied mathematics.

- A student whose scores on the WorkKeys assessments indicate that additional assistance is required in reading for information, locating information, or applied mathematics shall have intervention strategies for accelerated learning incorporated into his or her learning plan.
- A student meeting the WorkKeys threshold established by the Cabinet for Workforce Development shall be issued the appropriate Kentucky employability certificate.

The Kentucky Board of Education has a policy statement titled “Parent and Family Involvement Initiative” that recognizes the importance of the family’s role in educating children. The statement encourages schools to welcome parents and families and engage them in their child’s education.<sup>12</sup>

A number of committees at the state and local level must include parents:

- The membership of superintendent screening committees must include parents.
- The state board requires that parents be represented on local facilities planning groups that study building and redistricting needs of school districts.
- Parents are represented on the School Curriculum, Assessment and Accountability Council that advises the board of education and legislature on implementation of the Commonwealth Accountability Testing System and No Child Left Behind.
- State law provides that four of the 19 members of the Advisory Council for Gifted and Talented Education must be parents. (KRS 158.648)
- Parents are included on school audit teams. (KRS 158.6455)

## Federal Law

The No Child Left Behind law (NCLB) of 2001 (P.L. 107-110) holds public schools accountable to provide all students with a quality education and has extensive requirements for involving families in setting policy, developing agreements on how to work with staff to improve achievement, and writing school improvement plans. This law is modeled on state reform laws such as KERA.

Families in schools that receive funding under Title I of NCLB (because they serve concentrations of low-income children) may transfer their children to a higher-performing school, if the current school does not make “adequate yearly progress” for two years in a row. Students who do not transfer must be offered supplemental services, such as after-school tutoring or classes in reading and math, paid for by the school district.

The law’s obligations and opportunities for parent involvement can offer resources to make that adequate yearly progress. Section 1118 requires parent involvement at several points:

1. **School-parent compact:** Every Title I school must have a school-parent compact, developed with and approved by parents. The compact must describe how the school and parents will build a partnership to improve student achievement.
2. **School and district policy:** Each Title I school and district must write a parent involvement

policy that also has been developed with and agreed upon by parents. The district policy must describe how parents will be involved in developing plans to improve schools and engage families.

3. **Report cards:** Each year, the school district must distribute a report card specifying how every school and the district as a whole are performing. Both the school and district report cards must be in a language and format that parents can understand.
4. **Parent choice:** If a Title I school has not made adequate yearly progress in improving student performance, parents have two options. They may request a transfer or they can ask for supplemental services and become involved in developing a school improvement plan.
5. **State review:** The state education agency must monitor the school districts' Title 1 programs to make sure they carry out the law. If the district is not involving parents as the law requires, parents can appeal to the state.
6. **Communication:** For the first time, federal law defines parent involvement as regular, two-way, and meaningful communication about student learning and other school activities.

Some provisions of NCLB apply to all public schools, not just Title I schools. Every school district or school can choose to develop a strong partnership program, even if such action is not required. Other federal laws also require parent involvement. For example, the Federal Individuals with Disabilities Education Act (IDEA) requires that parents be included on individual education planning meetings for students with special learning needs.

## Endnotes

<sup>1</sup> Cathy Lindsey, *Kentucky Teacher*, May 2007, page 1

<sup>2</sup> This information is drawn from: Anne T. Henderson, *No Child Left Behind: What's in it for Parents* (Lexington, KY: Center for Parent Leadership, 2002) and Cindy Heine, *Kentucky School Updates: A Parent/Citizen Guide for 2006-08* (Lexington, KY: Prichard Committee for Academic Excellence, December 2006).

<sup>3</sup> Anne T. Henderson and Karen L. Mapp, *A New Wave of Evidence: The Impact of School, Family and Community Connections on Student Achievement* (Austin TX: Southwest Educational Development Laboratory, 2002)

<sup>4</sup> Westat and Policy Studies Associates, *The Longitudinal Evaluation of School Change and Performance in Title I Schools, Volume I*. (Washington, DC: US Department of Education, Office of the Deputy Secretary, Planning and Evaluation Service, 2001) [www.ed.gov/offices/OUS/PES/esed/lescpl\\_highlights.html](http://www.ed.gov/offices/OUS/PES/esed/lescpl_highlights.html)

<sup>5</sup> Ann V. Shaver and Richard T. Walls, Effect of Title I Parent Involvement on Student Reading and Mathematics Achievement (*Journal of Research and Development in Education*, 31 (2) , 1998, 90-97)

<sup>6</sup> Joyce L. Epstein et al., *Scaling Up School-Family-Community Connections in Baltimore: Effects on Student Achievement and Attendance* (Baltimore, MD: CRESPAR and the Center on School, Family and Community Partnerships, Johns Hopkins University, 1997).

<sup>7</sup> Karen L. Mapp, *Having Their Say: Parents Describe How and Why They Are Involved in Their Children's Education* (*School Community Journal* 13, no. 1 2003, 35-64.)

<sup>8</sup> Kavitha Mediratta, Norm Fruchter and Anne Lewis, *Organizing for School Reform* (NY: Institute for Education and Social Policy, New York University, 2002)

<sup>9</sup> M. Elena Lopez and Holly Kreider, "Beyond Input: Achieving Authentic Participation in School Reform," *The Evaluation Exchange*, IX, 2, Summer 2003 ([www.gse.harvard.edu/hfrp/eval/issue22/theory.html](http://www.gse.harvard.edu/hfrp/eval/issue22/theory.html))

<sup>10</sup> We are indebted to the work of Joyce Epstein and her colleagues at the National Network for Partnership Schools for developing the framework of six types of family involvement, and to the National Standards for Parent Involvement in Education, based on Epstein's work, published by the National PTA. These objectives are built upon their work.

<sup>11</sup> See Henderson and Mapp, *A New Wave of Evidence*; Joyce Epstein, *School, Family and Community Partnerships* (Boulder CO: Westview Press, 2001), and the Web site of the Harvard Family Research Project: <http://www.gse.harvard.edu/hfrp/projects/fine.html>

<sup>12</sup> Cindy Heine, *KENTUCKY SCHOOL UPDATES: A Parent/Citizen Guide for 2006-08*, (Lexington KY: Prichard Committee for Academic Excellence, December, 2006)

## Acknowledgements

Two years of meetings, conversations, conference calls, e-mail exchanges, and committee work have gone into this report. A majority of the members of the Commissioner's Parents Advisory Council (CPAC) listed on the following page participated actively and made important contributions. We would like to thank them for their hard work and dedication.

We would like to make special mention of Carol Edelen, Alice Nelson, Lois Quilligan, Lou Ann Cavenee-Ramos, Bev Raimondo, and Sande Shepherd, who worked with us for many hours to develop and refine the language of the *Kentucky Family and Community Involvement Guide*. Susan Perkins Weston, former director of the Kentucky Association of School Councils, now director of Council Coach, reviewed our work and gave us considerable suggestions for clarity and simplification. Tina Brooks and Cheri Meadows made many helpful suggestions about wording. Bev Raimondo found and recommended the report from the Maryland Parent Advisory Committee to Commissioner Wilhoit.

CPAC also worked closely with staff of the Kentucky Department of Education (KDE) during CPAC meetings and in committees. Special mention must go to former Commissioner Gene Wilhoit, whose vision inspired our work; to Shaun Murphy, Branch Manager, Community Support for Students and Families, who went beyond the call of duty to set up meetings, engage KDE colleagues, design agendas, and provide guidance and advice; and to Kevin Noland, Interim Commissioner, for his steadfast support and attendance. We also thank the following KDE staff:

Annette Bridges, Branch Manager, Preschool Education  
Stephanie Christenson, Program Consultant, Community Education  
David Cook, Policy Advisor, Office of Leadership & School Improvement  
Missy Drury, Legal, Legislative, and Communication Services  
Linda France, Deputy Commissioner, Bureau of Learning Results Services  
Lisa Gross, Director, Division of Communications  
Joan Howard, Program Consultant, Service Learning, FRYSC Liaison  
Barbara Kennedy, Director, Division of Scholastic Assistance  
Ginger Mason, Program Consultant, Targeted Assistance  
Erin McGee, Program Consultant, Council Development & Planning  
Cheri Meadows, Branch Manager, Council Development & Planning  
Jay Roberts, Database Analyst, Data Management  
Linda Robinson, Program Consultant, 21st Century Community Learning Centers  
Brigette Stacy, Program Consultant, Community Support for Students & Families  
Terry Vance, Program Consultant, Community Support for Students & Families -

Anne Henderson, senior consultant with the Community Involvement Program at the Annenberg Institute for School Reform, facilitated meetings, advised on the research, worked on drafts, and edited this report. This report has truly been a collaborative endeavor. We could not have done it without support from everyone on the CPAC and from the KDE staff. Many thanks should go to all of you.

Cindy Baumert and Dennis Pearce  
Co-Chairs, Commissioner's Parents Advisory Council

## Commissioner's Parents Advisory Council Members

Members are listed by their affiliation with one of three key state organizations that represent parents and families.

### Kentucky Association of School Councils

Cindy Baumert (Co-Chair)	Jefferson County
Sharon Cherry	Pulaski County
Earlie Fugate	Paducah Independent Schools, McCracken County
Debra Gensheimer	Warren County
Dreama Gentry	Berea Independent Schools, Madison County
Bani Hines-Hudson	Jefferson County
Susan Jordison	Rockcastle County
Yolantha Pace	Danville Independent Schools, Boyle County
Lois Quilligan	Boyle County
Sande Shepherd	Jefferson County

### Kentucky Parent-Teacher Association

Rose Babiak	Jefferson County
Bart Baldwin	Shelby County
Debbie Boian	Fayette County
Tina Brooks	Fayette County
Tina Crase	Walton-Verona Independent Schools, Boone County
Jackie DeRudder	Spencer County
Ron Langley	Fayette County
Leeann Myers	Calloway County
Karen Siladi	Oldham County
Michelle Sutton	Franklin County
Chris Tolliver	Hopkins County
Denise Varney	Covington Independent Schools, Kenton County
Jackie West	Fayette County
Amy Whelan	Lawrence County
Sharon Whitworth	Spencer County
Patty Young	Kenton County

### Prichard Committee for Academic Excellence

Jessica Berry	Fayette County
Mindy Curless	Fayette County
Carol Edelen	Jefferson County
Rose Lester	Lawrence County
Cindy Maggard	Carter County
Mattie Morton	Fayette County
Dennis Pearce (Co-Chair)	Fayette County
Bob Rouse	Woodford County
Bev Raimondo	Fayette County
Lou Ann Cavenee-Ramos	Fayette County
Alice Nelson	Fayette County

The Department of Education does not discriminate on the basis of sex,  
religion, age or disability in employment or provision of services.

Printed with state funds.

Kentucky's approach to school educational recovery (E)(2)

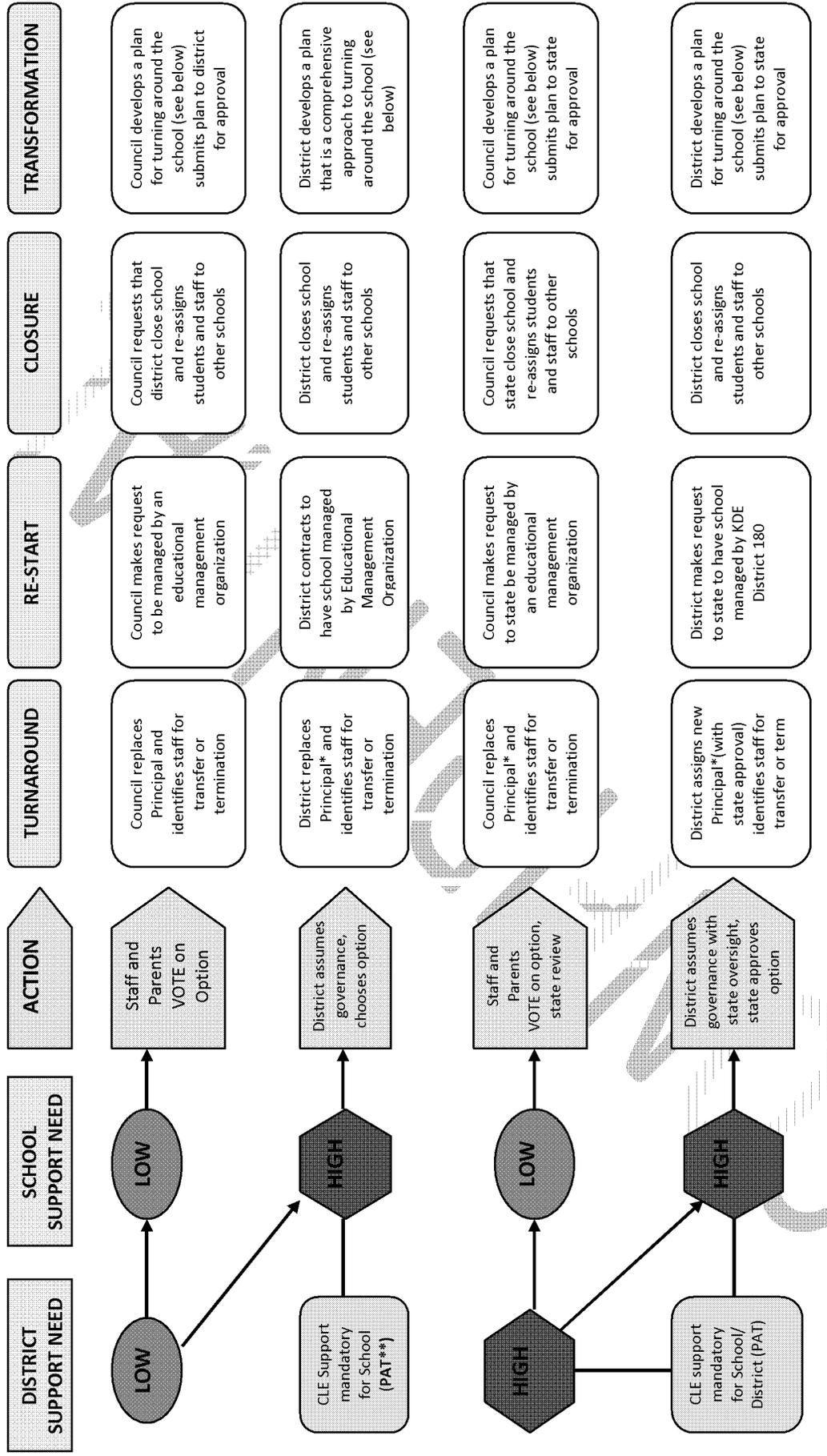
### Scholastic Audits and District Management Audits

@Rbgnk`r`sfb` t`clsv`fkkad`bnrct`bsdc`v`gdm` r`bggnkkr` h`ednr`st`d`c` r` mDct`b` smm` kQdbnuoq` Rbggnk` nc` Chr`sfbsL` m`f`dl` dms`@`cls` v`fkkad`bnrct`bsdc`r`h` t`k`n`dnt`r`k`-`h`h` cc`lsmmsn`sgd`qf`tk`q` t`clsv`nc`hmf`r`+sgd` t`cls`sd` l` v`fkk`rdaj` m`v`dq` sn`sgd` enlknv`hmf` pt`dr`smmr`9

- 0- Cndr`sgd`r`bggnkkr`sfbs`et`rbsmm`r` m`de`l`bstud`kd` q`r`hmf` bnl`l` t`ntsx`nc`rt`oonq` b`h`sd`bnrct`b`h`ud`sn`od`qnd` r`nbd` dwbdk`r`f`bd>
- 1- Cndr`sgd`r`bggnkkr`sfbs`bstud`k`drf`f`d`e`l`fkk`r`nc`bnl`l` t`ntsx`f`qnt`or`sn`qal`nud`a`q`f`dq`sn`kd` q`r`hmf`hm` m`de`l`q`sn`l` dds`sgd` h`m`x`k`k`b`st` k`r`n`b`h`k`e`b` q`p`dq`nc`cdud`k`ol` dms`k`n`d`dcr`ner`st`cdnr`>`Sgd`L`r`r`hmf`Or`l`b`d`nesgd`O`q`r`e`b`l`e`r`n`b`x`O`t`y`y`d`v`fkk`ad`t`r`dc`sn` m`v`dq`sg`r`pt`dr`smmr`f
- 2- Cndr`sgd`r`bggnkkr`sfbs`enbt`r`h`r`o`q`e`l`r`h`m`i`k`d` q`r`hmf`o`q`f`q`l`o`d`f`q`f`k`n`m`i`n`a`d`l`ad`c`e`d`c`o`q`e`l`r`h`m`i`k`d` q`r`hmf`noonq`f`nt`f`d`r`sg`sn`b`b`t`q`h`m`r`l` f`k`k`d` q`r`hmf`sd`l`r`nesd`bgdq`nc`t`r`d`bnr`n`d`ms`c`d`ud`m`o`q`e`l`r`h`m`i`k`d` q`r`hmf`r`d`r`r`h`m`r`sn`cc`q`r`r`sgd`m`d`d`c`r`h`e`d`nr`st`d`c`h`m`sgd`kd` q`r`hmf`sd`l`r`>
- 3- Cn`r`bggnkkr`sfbs`h`m`r`sg`b`sm`i`k`c`d`b`r`h`m`r`enbt`r`nm`rt`oonq`enq`sd`bg`hmf`nc`kd` q`r`hmf`+nq`n`h`y`sn`m`i`k`c`l`e`p`b`st`m`m`-`g`l`f`g`od`q`nd` r`nbd`dw`ob`st`smmr`+b`q`f`smr`kd` q`r`hmf`bt`k`et`q`+c`d`ud`k`ol`hmf`kd`c`d`q`g`h`e`b`o`b`l`st`>
- 4- Hf`sgd`r`bggnkkr`q`n`h`y`d`c`sn`l``w`h`h`y`d`t`r`d`ne`k`u`f`k`ak`q`r`nt`c`p`dr`'a`n`sg`g`l`m`nc`e`r`b`k`sn`rt`oonq`sg`l`f`g`r`st`cdnr`nc`r`s`e`e`od`q`nd` r`nbd>
- 5- Cndr`sgd`r`bggnkkr`sfbs`g`ud`m`de`l`bstud`o`q`b`d`r`enq`d`m`r`t`q`h`mf`sg`e`b`
  - a) sgd`m`d`d`c`r`ne`k`r`st`cdnr`nc`q`l`h`e`d`nr`st`d`c`:
  - b) r`od`b`r`e`b`+l`d`r`t`q`ak`d`f`n`k``q`l`r`d`ss`n`cc`q`r`r`sg`n`r`d`m`d`d`c`r`:
  - c) r`od`b`r`e`b`r`sg`sf`f`e`l`r``q`l`h`o`k`d`l`d`nr`e`d`c`sn`h`i`o`k`d`l`d`nr`sg`n`r`d`r`sg`sf`f`e`l`r`:`nc`
  - d) `c`d`p`t`sd`q`r`nt`c`p`dr``q`l`o`q`u`l`e`d`c`sn`h`i`o`k`d`l`d`nr`sg`n`r`d`r`sg`sf`f`e`l`r`:`nc`
  - e) sgd`h`i`o`k`d`l`d`nr`st`m`n`e`sgd`r`sg`sf`f`e`l`r`h`r`e`p`t`d`nr`k`l`n`r`h`e`d`nr`st`d`c`nc`c`i`t`r`s`d`nr``q`l``c`d`v`g`d`m`r`sg`sf`f`e`l`r``q`l`n`ms`b`g`h`e`l`u`h`mf`sg`d`h`e`d`nr`st`d`c`r`h`e`d`nr`nt`son`l`dr`-

Sgd` t`clsv`o`q`b`d`r`v`fkk`q`d`r`t`k`l`m`q`b`n`l`l`d`nr`smmr`ant`sgd`b`o`b`l`st`x`nesgd`r`bggnk`nc`chr`sfbsn`l`j`d`c`d`b`r`h`m`r`q`k`s`d`c`sn`sgd`st`q`n`q`nt`nc`nos`h`m`r`q`p`t`h`e`p`c`h`m`sgd`e`f`e`d`q`k`Q`bd`sn`sgd`Sno`nc`R`bggnk`h`l`o`q`u`d`l`d`nr`F`q`n`sf`t`h`e`d`k`h`m`r`-`Sgd`enlknv`hmf`e`k`n`v`b`g`q`sr`g`n`v`r`gnv`c`d`b`r`h`m`r`ant`sgd`st`q`n`q`nt`nc`nos`h`m`r`v`fkk`n`b`b`t`q`Sgd`c`d`b`r`h`m`m`v`fkk`d`sg`d`q`ad`k`h`mf`sn`sgd`r`b`g`n`k`a`r`d`c`c`d`b`r`h`m`l`j`hmf`b`n`t`n`b`l`k`'O`nt`n`b`l`k`n`q`sgd`chr`sfbs`v`h`sg`r`s`sd`o`o`q`u`k`

# EDUCATIONAL RECOVERY FLOWCHART



**Transformation:** a comprehensive strategy that, at a minimum, replaces the school leadership and develops and rewards teacher and leader effectiveness; adopts comprehensive instructional programs; extends time for students and staff and offers community-oriented services; and provides operating flexibility and intensive support.

\*Principal chosen from individuals with Educational Recovery Leader credentials

\*\*PAT (Partnership Assist Team) includes mentor/coach for Board of Ed and Superintendent (District) or Council and Principal (School)

## SCHOOL INTERVENTION MODELS

There are four school intervention models referred to in Selection Criterion (E)(2): turnaround model, restart model, school closure, or transformation model. Each is described below.

- (a) Turnaround model. (1) A turnaround model is one in which an LEA must--
- (i) Replace the principal and grant the principal sufficient operational flexibility (including in staffing, calendars/time, and budgeting) to implement fully a comprehensive approach in order to substantially improve student achievement outcomes and increase high school graduation rates;
  - (ii) Use locally adopted competencies to measure the effectiveness of staff who can work within the turnaround environment to meet the needs of students,
    - (A) Screen all existing staff and rehire no more than 50 percent; and
    - (B) Select new staff;
  - (iii) Implement such strategies as financial incentives, increased opportunities for promotion and career growth, and more flexible work conditions that are designed to recruit, place, and retain staff with the skills necessary to meet the needs of the students in the turnaround school;
  - (iv) Provide staff with ongoing, high-quality, job-embedded professional development that is aligned with the school's comprehensive instructional program and designed with school staff to ensure that they are equipped to facilitate effective teaching and learning and have the capacity to successfully implement school reform strategies;
  - (v) Adopt a new governance structure, which may include, but is not limited to, requiring the school to report to a new "turnaround office" in the LEA or SEA, hire a "turnaround leader" who reports directly to the Superintendent or Chief Academic Officer, or enter into a multi-year contract with the LEA or SEA to obtain added flexibility in exchange for greater accountability;
  - (vi) Use data to identify and implement an instructional program that is research-based and "vertically aligned" from one grade to the next as well as aligned with State academic standards;
  - (vii) Promote the continuous use of student data (such as from formative, interim, and summative assessments) to inform and differentiate instruction in order to meet the academic needs of individual students;
  - (viii) Establish schedules and implement strategies that provide increased learning time (as defined in this notice); and
  - (ix) Provide appropriate social-emotional and community-oriented services and supports for students.
- (2) A turnaround model may also implement other strategies such as—
- (i) Any of the required and permissible activities under the transformation model; or
  - (ii) A new school model (*e.g.*, themed, dual language academy).
- (b) Restart model. A restart model is one in which an LEA converts a school or closes and reopens a school under a contract with an education management organization (EMO) that has been selected through a rigorous review process. (An EMO is a for-profit or non-profit

organization that provides “whole-school operation” services to an LEA.) A restart model must enroll, within the grades it serves, any former student who wishes to attend the school.

(c) School closure. School closure occurs when an LEA closes a school and enrolls the students who attended that school in other schools in the LEA that are higher achieving. These other schools should be within reasonable proximity to the closed school and may include, but are not limited to new schools for which achievement data are not yet available.

(d) Transformation model. A transformation model is one in which an LEA implements each of the following strategies:

(1) Developing and increasing teacher and school leader effectiveness.

(i) Required activities. The LEA must--

(A) Replace the principal who led the school prior to commencement of the transformation model;

(B) Use rigorous, transparent, and equitable evaluation systems for teachers and principals that--

(1) Take into account data on student growth (as defined in this notice) as a significant factor as well as other factors such as multiple observation-based assessments of performance and ongoing collections of professional practice reflective of student achievement and increased high-school graduations rates; and

(2) Are designed and developed with teacher and principal involvement;

(C) Identify and reward school leaders, teachers, and other staff who, in implementing this model, have increased student achievement and high-school graduation rates and identify and remove those who, after ample opportunities have been provided for them to improve their professional practice, have not done so;

(D) Provide staff with ongoing, high-quality, job-embedded professional development (*e.g.*, regarding subject-specific pedagogy, instruction that reflects a deeper understanding of the community served by the school, or differentiated instruction) that is aligned with the school’s comprehensive instructional program and designed with school staff to ensure they are equipped to facilitate effective teaching and learning and have the capacity to successfully implement school reform strategies; and

(E) Implement such strategies as financial incentives, increased opportunities for promotion and career growth, and more flexible work conditions that are designed to recruit, place, and retain staff with the skills necessary to meet the needs of the students in a transformation school.

(ii) Permissible activities. An LEA may also implement other strategies to develop teachers’ and school leaders’ effectiveness, such as--

(A) Providing additional compensation to attract and retain staff with the skills necessary to meet the needs of the students in a transformation school;

(B) Instituting a system for measuring changes in instructional practices resulting from professional development; or

(C) Ensuring that the school is not required to accept a teacher without the mutual consent of the teacher and principal, regardless of the teacher’s seniority.

(2) Comprehensive instructional reform strategies.

(i) Required activities. The LEA must--

(A) Use data to identify and implement an instructional program that is research-based and “vertically aligned” from one grade to the next as well as aligned with State academic standards; and

(B) Promote the continuous use of student data (such as from formative, interim, and summative assessments) to inform and differentiate instruction in order to meet the academic needs of individual students.

(ii) Permissible activities. An LEA may also implement comprehensive instructional reform strategies, such as--

(A) Conducting periodic reviews to ensure that the curriculum is being implemented with fidelity, is having the intended impact on student achievement, and is modified if ineffective;

(B) Implementing a schoolwide “response-to-intervention” model;

(C) Providing additional supports and professional development to teachers and principals in order to implement effective strategies to support students with disabilities in the least restrictive environment and to ensure that limited English proficient students acquire language skills to master academic content;

(D) Using and integrating technology-based supports and interventions as part of the instructional program; and

(E) In secondary schools--

(1) Increasing rigor by offering opportunities for students to enroll in advanced coursework (such as Advanced Placement or International Baccalaureate; or science, technology, engineering, and mathematics courses, especially those that incorporate rigorous and relevant project-, inquiry-, or design-based contextual learning opportunities), early-college high schools, dual enrollment programs, or thematic learning academies that prepare students for college and careers, including by providing appropriate supports designed to ensure that low-achieving students can take advantage of these programs and coursework;

(2) Improving student transition from middle to high school through summer transition programs or freshman academies;

(3) Increasing graduation rates through, for example, credit-recovery programs, re-engagement strategies, smaller learning communities, competency-based instruction and performance-based assessments, and acceleration of basic reading and mathematics skills; or

(4) Establishing early-warning systems to identify students who may be at risk of failing to achieve to high standards or graduate.

(3) Increasing learning time and creating community-oriented schools.

(i) Required activities. The LEA must--

(A) Establish schedules and implement strategies that provide increased learning time (as defined in this notice); and

(B) Provide ongoing mechanisms for family and community engagement.

(ii) Permissible activities. An LEA may also implement other strategies that extend learning time and create community-oriented schools, such as--

(A) Partnering with parents and parent organizations, faith- and community-based organizations, health clinics, other State or local agencies, and others to create safe school environments that meet students’ social, emotional, and health needs;

(B) Extending or restructuring the school day so as to add time for such strategies as advisory periods that build relationships between students, faculty, and other school staff;

(C) Implementing approaches to improve school climate and discipline, such as implementing a system of positive behavioral supports or taking steps to eliminate bullying and student harassment; or

(D) Expanding the school program to offer full-day kindergarten or pre-kindergarten.

(4) Providing operational flexibility and sustained support.

(i) Required activities. The LEA must--

(A) Give the school sufficient operational flexibility (such as staffing, calendars/time, and budgeting) to implement fully a comprehensive approach to substantially improve student achievement outcomes and increase high school graduation rates; and

(B) Ensure that the school receives ongoing, intensive technical assistance and related support from the LEA, the SEA, or a designated external lead partner organization (such as a school turnaround organization or an EMO).

(ii) Permissible activities. The LEA may also implement other strategies for providing operational flexibility and intensive support, such as--

(A) Allowing the school to be run under a new governance arrangement, such as a turnaround division within the LEA or SEA; or

(B) Implementing a per-pupil school-based budget formula that is weighted based on student needs.

If a school identified as a persistently lowest-achieving school has implemented, in whole or in part within the last two years, an intervention that meets the requirements of the turnaround, restart, or transformation models, the school may continue or complete the intervention being implemented.

## About *High Schools That Work*

*High Schools That Work (HSTW)* was established in 1987 by the SREB State Vocational Education Consortium, a partnership of SREB, its member states, their school systems and school sites.

*HSTW* has grown from 28 pilot sites in 13 states to its current size of more than 1,200 sites in 30 states and the District of Columbia, including: Alabama, Arkansas, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Mississippi, Missouri, Nebraska, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Virginia and West Virginia.

*HSTW* uses research-proven strategies to help states transform their public high schools into places where all students learn at high levels.

The program is based on the belief that most students can master complex academic and technical concepts if schools create an environment that encourages students to make the effort to succeed. Member schools implement 10 Key Practices for changing what is expected of students, what they are taught and how they are taught.

SREB provides member states and sites with staff development, technical assistance, communications and publications, and assessment services.

The program has its own *HSTW* Board.

[http://www.sreb.org/page/1078/high\\_schools\\_that\\_work.html](http://www.sreb.org/page/1078/high_schools_that_work.html)

### EVENTS

07/14/2010 - 07/17/2010  
[24th Annual SREB High Schools That Work Staff Development Conference >>](#)

---

### PUBLICATIONS

[High Schools That Work: An Enhanced Design to Get All Students to Standards](#)

[High Schools That Work Supportive Networks and Services](#)

### FOR INFORMATION, CONTACT:

**Gene Bottoms**

*Senior Vice President*

(404) 875-9211

**Beth Andrews**

*Executive Assistant to the Senior Vice President*

(404) 879-5577

## ***Making Middle Grades Work***

Too many students leave the middle grades unprepared to succeed in rigorous high school studies and unable to take advantage of all that high school can offer. By ninth grade, many struggling students have fallen behind and are on a path to become high school dropouts.

Through SREB's middle grades initiative, SREB states are among the first in the nation to implement strategies that address the crucial middle grades and key transition into high school. *Making Middle Grades Work (MMGW)* helps states, districts and schools look at what they expect, what they teach and how they teach young adolescents to prepare for success in further education.

MMGW is a network of schools, districts and states committed to improving school and classroom practices in the middle grades by implementing a framework of Key Practices and conditions for continuous improvement. The MMGW brochure, *Making Middle Grades Work: An Enhanced Design to Prepare All Middle Grades Students for Success in High School*, details the essential elements and other components of the framework.

[http://www.sreb.org/cgi-bin/MySQLdb?VIEW=/public/view\\_page.txt&currentpage=1080](http://www.sreb.org/cgi-bin/MySQLdb?VIEW=/public/view_page.txt&currentpage=1080)

### EVENTS

03/04/2010 - 03/05/2010

**Re-Energizing Your Implementation of the HSTW/MMGW Design >>**

07/14/2010 - 07/17/2010

**24th Annual SREB High Schools That Work Staff Development Conference >>**

---

### PUBLICATIONS

***Making Middle Grades Work: An Enhanced Design to Prepare All Middle Grades Students for Success in High School***

***Preparing Middle Grades Students for High School Success: A Comparative Study of Most- and Least-Improved Middle Grades Schools***

FOR INFORMATION, CONTACT:

**Yvonne Thayer**  
*Senior Director*  
(404) 879-5548

## Memorandum

To: David Cook  
From: Andrew Hysell  
Date: December 11, 2009  
Re: Race to the Top Application for Initial Funding, CFDA Number: 84.3945A

H/Dw I oldr ner odble bnmr bsmr adsv ddmR` ud sgd Bglic qm ksdq bx oqnf q l `nc C` s`  
Rxsdl r sn Rt oonq hnsq bsmr

'B('2( , Using data to improve instruction 'o` f d 20(

'h' hnsq` rd sgd ` bpt hnsq` cnosm` mc trd neknb` kmr sq bsmr kh oqudl dms rxsdl r sg` s  
oquled sd` bgdq +oqmblo` k` +` mc ` cl hnsq` sq v lsg sgd hnsq ` sm` mc qtr nt qdr sgd x mdc sn  
hnsq ` mc h` oqud sgd hnsq bsmr koq bsbdr +cdbr hmsl ` j hmf +` mc nudq kcdbsudmrr

- RS@Q Qd` chmf ` mc @bdkd` sdc Qd` cdqoquled sv n rnt qdr nennf nlmf end ` stud  
c` s` sg` sb` mad trdc sn hnsq r sq f f kmf qd` cdq` mc hnsq hnsq bsmr R` ud sgd  
Bglic qm ksdq bx Bnnqpm sqrs sq bst qtr ` bsbdr sn rt oonqsgdrd bglic qm sqnt f g  
rt ooldl dms k` hmr bgnk` mc ` sdr bgnk oqnf q l l hmf - Sgd Qd` chmf Rt oonq  
Sd` bgdq bnt sdr bnk anq stud ok mnmf adsv ddmr r rqn l sd` bgdq +sgd ksdq bx  
Bnnqpm sq` mc nsgdq` q oqdr hms krs e Sgr hmr qdr sg` sc` s` rxsdl r trdc  
ct qmf sgd rbgnk` x hnsq` rt ooldl dms krt oonq` mc c` s` rxsdl r trdc ` r o` qne  
sgd ` sdr bgnk oqnf q l hnsq` bk r rqn l hnsq bsmr

'h' Rt oonq` qtr` smf KD@ ` ` r cdemc hmsgr mstod(` mc rbgnk` sg` s` qtr hmf hnsq bsmr k  
h` oqudl dms rxsdl r ` ` r cdemc hmsgr mstod( hmoquled hmf ddbud oqdr hms kcdudkol dms  
sn sd` bgdq +oqmblo` k` ` mc ` cl hnsq` sq nmgv sn trd sgd r rxsdl r ` mc sgd qtr kmf c` s` sn  
rt oonq bsmr nt r hnsq bsmr kh oqudl dms ` mc

- Sgd Qd` chmf Rt oonq Sd` bgdq oquled r nfm nlmf oqdr hms kcdudkol dms sn  
sd` bgdq nmt r hmf c` s` sn ` bdkd` sd sgd qd` chmf ` bgludl dms ner sq f f kmf qd` cdq` -  
Oqmblo` k` ` mc ` cl hnsq` sq` qd` rt oonq` dc nmsgd ddbud trd nec` s` ct qmf sgd  
` mnt` kQt q` kRbgnk Kd` cdq` glo Rt l l l Sgd Qd` chmf Rt oonq Sd` bgdq` cr  
pt ` qd` c` s` chrt r hms v lsg bk r rqn l sd` bgdq sn hnsq r sq f f kmf qd` cdq` ` mc  
end` t k` sd` ok msn rt oonq` sgd l - Sgd QRS ` mc rbgnk oqmblo` kv nq` bnk anq stud  
sn l nmsqr` sd` mc knb` k` rrdrl dms -

H/Dw I oldr ner odble bnmr bsmr adsv ddmR` ud sgd Bglic qm ksdq bx oqnf q l `nc C` q` s`  
Sd` bgdq ` mc Kd` cdq` O

'C('1( D Improving teacher and principal effectiveness based on performance

'h' Drs` alkr` bld` q` oqnf` bgdr sn l d` rt qmf r st cdms` qv sg` ` r cdemc hmsgr mstod(` mc  
l d` rt qd` hnsq` bg hmsq` ` krt cdms` o` f dr 22` mc 23(

- hnsq bgnk vgdq` c` h` hnsq dms qd` chmf sh` d` h` hnsq` cdc` r` ` bnl onms nesgd  
DK@akbj +RS@Q Qd` chmf rdqdr ` r nms snks` sb` mad trdc sn l nmsq hmsq` k  
bglic f qv sg- Tr hmf RS@Q Qd` chmf ` r` l` h` x` d` qnd` ` stud` rrdrl dms` hnsq` r  
sd` bgdq sn l nmsq` d` bg bglic` qd` chmf` oq` bsbdr ` mc f` t` f` d` d` bg bglic` f` qv sg  
qd` stud sn glr nsgdq` - Sgd Qd` chmf Rt oonq Sd` bgdq` mc ksdq bx Bnnqpm sq  
oquled ` r hnsq` nbd sn sd` bgdq nmgv sn ddbud` trd RS@Q Qd` chmf C` s` sn  
hnsq` oq` bsbdr-

'hu( Trd sgdrd du`k`snmr+`s` l`hmh t l +sn hmnd` cdbhr hmnr qf` q`hmf` - Cdudknohmf sd` bgdq`  
 `mc oqmblo` k`+hmhbk chmf ax oqulchmf qldu` n`sb` bghmf +hmct bshmr t oonq` mc.nq  
 oqærrhm kcdudkno dms

- Sghr at kdsedr bqdadr sgdr qld` mc qronr hmh` nsgd Qd` chmf Rt oonq`Sd` bgdq`  
 V ngj hmf bkr d`k v lsg sgdr rbgnnkoqmblo` k`sgd Qd` chmf Rt oonq`Sd` bgdq` kkoqured  
 bn` bghmf` mc oqærrhm kcdudkno dms sn sgnd sd` bgdq` kcdudkno` r` mddchmf` cchsmi k  
 rt oonq` Sghr sq hmhf v hkmhbk cd rt oonq`hmh okd dmsmf rs` sd` mc kb` kbt qbt k` r  
 v d`k` r` hmhbnq` hmh R` ud sgdr Bghcqm` oqnl hmhf oq` bshdr hmh bk` r` r` qnl hmh sq` bshmr

HH Dw l` oldr nerodble` bnrm bshmr adsv ddmR` ud sgdr Bghcqm` ksdq` bx oqf` q` l` mc sgdr  
 St qmhf` @nt mc sgdr Knv drs` @qldu` Rbgnnk` O`

'D( '1( 'o` f d 34(

'hm Rdd adkv` eqcds` hdc hmh t` mcdq`Sj` m`nd` `shml` ncdk,

**(Note, under the evidence section of the application, you may want to mention our program as an example of how Kentucky has addressed the issue of lowest-achieving schools over the past 5 years. That state has funded our program for 4 years plus).**

Sj` m`nd` `shml` ncdk` rdd` o` f d 61(9

'c(0' h' C( ,, *Developing and increasing teacher and school leader effectiveness*

- Nt qbdms` kned Qd` chmf Rt oonq`Sd` bgdq`onr` hmhmoquredr` nrf` nlmf` +gfi` g` pt` k`x  
 ksdq` bx` rt` oonq`hmhsgd` end` neansg` sq` hmhf` `mc` sdbgnhb` k` r` r` h` s` nbd` sn` `k`bk` r` r` qnl  
 sd` bgdq` `mc` o` q` oqærrhm k` q`k` sdc` sn` qdr` d` q`g` a` rdc`+oqnl` hmhf` ksdq` bx` oq` bshdr`+  
 `h` dc` `s` bbdkdq` hmh` r`st` cdms`qd` chmf` `bgldudl` dms`hm` o` qndqr` bgnnk`bnnq`hmh` sdc` v` lsg  
 rt` oonq`hmf` sd` bgdq` sn` d` bshudk` h` okd` dms`ch` s` h` s` `mc` r` s` sd` qd` chmf` bt` qbt` k` -
- Hm` cchsmi`+R` ud sgdr Bghcqm` moqured` rt` oonq`sn` `cl` hmhf` sq` sq` `so` qndq`  
 r`bgnnk` sn` t` rd` qd` chmf` `bgldudl` dms`c` s` sn` hmnd` `mc` h` oqud` nrf` nlmf` hmh` sq` bshmr

'c(1' h' A( ,, *Promote the continuous use of student data to inform and differentiate instruction in order to meet the academic needs of individual students*

- Nt` qoqf` q` l` sq` bj` r` nrf` nlmf` r`st` cdms`oqf` qdr` r` sgnt` f` g` l` d`sq`br` hmhbk` chmf` `sd`mc` nbd`+  
 annj` r` qd` c`+bnl` oq`gd`m` hmpt` h`ydr` o` r` rdc`+` mc` mnd` `kbt` qud` dpt` hu` kdr`bx` r` bndqr` eqnl  
 r` s` mc` q`hydc` sdr`hmf` - Sgd` ksdq` bx` oqf` q` l` r` s` æhmot` sc` s` nmsgd`rd` l` d`sq`br` v` ddj` k` `mc`  
 `m` kyd` qdr` t` k` sn` hcdms`x` hmh`ch`et` k` r`st` cdms`oqf` qdr` - Sghr` `knv` r` t` r` sn` hcdms`x`  
 r`sq` f` f` hmhf` r`st` cdms` pt` h`j` k` `mc` bnrm` sq` bsh`ch`et` `kydc` hmh`qdms`hmh` hmh` qd` k`sh` d`-
- R` ud sgdr Bghcqm`st` sq`+v` ngj` hmf` v` lsg` r` l` `k`f` qnt` or` nebghcqm`nmr`j` k`k`a` r`dc` qd` chmf`  
 st` sq` k` `k`n` dl` okx` end` `stud` r` r`dr` l` dms`+nm` qf` t` k` q`a` r` h`+sn` hmnd` v` ddj` k`  
 hmh` sq` bshmr

'c(1' h' B( ,, *È to ensure that limited English proficient students acquire language skills to master academic content*

- Sn` sgdr` d`v`dms`sg` s`DKK` bghcqm` qd` oqdr` dms`hmnt` qo` qndqr` bgnnk`+R` ud sgdr Bghcqm`  
 l` ncdk` r`sq` sdf` h`r` `mc` hmh`qdms`hmh` sn` d` bshudk` l` dds`gd`rd` r`st` cdms` &` mddcr` - Sv` n` ne  
 sgdr` sgdr` bnd` bnl` onndms` nent` q` esdqr` bgnnk`+hmh` bgnnk` mc` r` t` l` l` d`qoqf` q` l` l` hmhf`  
 'qd` chmf` `knt` c` sn` bghcqm` mc` et` d`mbx` at` h`chmf` `bshudk` (`ccqdr` b`q` bh` kumb` at` k` q`  
 cdudkno` dms`dud`q`c` x`- hmh` cchsmi`+` unb` at` k` q` st` sq` kv` ghg` hmh`qnt` bdr` nrdv` `f` d`  
 `ooqod` sd` unb` at` k` q` t` r` hmhf` `t` sgdr`sh` sd`v`+`r` `u` k` ald` eqr` l` `k`f` qnt` o` rt` oonq`

'c(1' h' D(3 ,, *Establishing early-warning systems to identify students who may be at risk of failing to achieve to high standards*

- V nq lmf v lsg sd` bgdq `nc `cl lmr sq snq +v d lndnsx bglhcqdmq` cmlf adkv f q cd kdudk @ sgd oqnf q l oqnf qdr r dr +v d l nmsnqsgdr d r s cdms & bgludl dms`nc lmdrs `cclsmi k` sdsnm`nc qdr nt qdr enqsgnr d v gn bnsnt d sn r s f f kd-

'c(2' h' @ ,, *Establish schedules and improvement strategies that provide increased learning time*

- Nt qk d q bx aknbj +lmsi sdc ent qc`xr `v ddj `edqr bgnnk enqnr d gnt q bnmr sdr `m dwdmcdc r bgnnk `x enqo` q bto`ns v lsg !` ent r nmlmr s bsmmlmbnq d `b`cdl lb rt aidbs +lmbk cmlf Dmf krg: qd` cmlf nqk nft `f d `q `o` f d 8(-

'c(2' h' @ ,, *Partnering with parents and parent organizations, faith- and community-based organizations, ...to create safe school environments that meet students' social, emotional, and health needs*

- Sgd `edqr bgnnkbnl onmnsent qk d q bx oqnf q l lmbk cdr nt q BG@MF D oqnf q l v glbg oqulcdr 2/ l lmt sdr nel ncdq sd sn ulf nqt r ogxr lb`k` bsls `r v dk`r `gd` legx r mi bj - Sgd `edqr bgnnkbnl onmns`r `v gnkd bqd` sdr `r` ed +bnmr s bsd dmlqrmi dms enq` s q r j bglhcqdm

HU- Dw l okdr ner oddbr b bnmmlbsnmr adsv ddmR` ud sgd Bglhcqdm & ksdq bx oqnf q l `nc Oqmds 29  
htuls snm kOmds EOnmu` smrr enqHl oqulmf D` dx Kd` q r m f Nt snl dr O` f d 41(

- R` ud sgd Bglhcqdmnodq sdr lsr d` dx bglhcgnnc oqnf q l r ,, D` dx Rsdor enqRbgnnk Rt bdr r 'DRRR(N lmq q kJ dms bj x- Sgd DRRR oqnf q l g`r `ent r nmlme ns sn oqf, J `f d bglhcqdm`nc lr cdr hf nlc sn Qd q le Ov lsg R` ud sgd Bglhcqdm ksdq bx oqnf q l + sq m lsmnrmf j lcr lmsn r bgnnk Sghr ydq sn dlf gsf q cd l ncdkhr bnmr ledqic ax l `nx dct b` smmdwodq `r `oqledqic lmsdqdr smm enqHl oqulmf dct b` smmodqnd `nbd`nc lmbqd` r lmf f q ct ` smmq sdr -

# GATEWAY to COLLEGE

## NATIONAL NETWORK

### Essential Elements of the Model

All Gateway to College programs will implement the following essentials elements.

1. **Sustainable Partnerships.** Programs are self-sustaining through K – 12, college, and community partnerships. District per-pupil expenditure pays for tuition and books and colleges use their existing infrastructure to limit operational costs. District and college needs are met.
2. **College-based.** Gateway programs are an integral part of the college. All classes and staff offices are on campus. Flexible class times fit non-traditional students' schedules. The college calendar is adhered to and some students take summer classes to graduate before "aging out." Students have full access to college courses, facilities, and support services. Students *feel* like college students because they *are* full-fledged college students.
3. **Dual Credit.** Courses align to allow dual credit (high school and college). Students achieve a high school diploma and significant college credit toward an AA or certificate. Alignment work is undertaken with an "every-credit counts, no wasted credits" mindset.
4. **Staffing.** Program staff is experienced with at-risk youth program delivery. An initial staffing plan includes a full-time director; administrative assistant; two full-time resource specialists (student counselor, coach, mentor, advisor); reading, writing, and math faculty (often part-time adjuncts); and support staff (e.g., tutors, academic lab facilitators). Faculty hold masters degrees to meet highly qualified requirements.
5. **Student Selection.**

*Eligibility.* Student eligibility is firmly based on the following criteria. An eligible student: is between 16 and 20 years old; has dropped out or is on the verge of dropping out of high school; is behind in credits for age and grade level; has a GPA of 2.0 or below (or exhibits other risk factors); lives in an eligible district; has expressed the goal of earning a diploma; and reads at an 8<sup>th</sup> grade level or higher.

*Assessment.* Students are selected through an intensive intake and evaluation process. Student reading, writing, grammar, math, and affective skills are assessed prior to their acceptance. Network-approved selection tools and guidelines are used to assess a student's chance for success while maintaining the Gateway mission.

*Referral.* The program serves as a clearinghouse for reconnecting youth to education. Those students not selected are counseled to a better option. These options may include GED, ESL/ELL, K – 12 or college alternatives, and community-based programs.

*Matriculation.* New students begin each college term (including summer if possible).

Stephen Rhee  
Dir. Ed. Learning Language  
for RTTT Proposal Dec & Jan  
TEK

JCPS  
FCPS  
Paducah

6. **Student Progress.**

*Foundation.* All students begin with Gateway Foundation in a learning community of 20-25 students. They take coursework in reading, writing, math, college survival, and an academic lab. Each learning community is assigned a resource specialist (RS) who works intensively with each student until graduation. RSs teach college guidance and career development courses in order to provide more holistic support by getting to know their students as learners.

*Transition.* Students transition onto the comprehensive campus (called Gateway Continuation) where they complete the dual credit coursework needed for their diploma. An individual's transition path varies. Based on Foundation grades, maturity-level, and skill-level (including college placement test results), they are placed in the appropriate next sequence of courses. Some will need to repeat some/all Foundation courses. Some need further developmental-level work. Most will begin taking at least one college transfer-level class in their second term.

*Continuation.* Continuation courses are taught by regular college faculty. A Gateway student attends these courses as a "regular" college student. As a rule, their identity as a Gateway student is transparent. Continuation students maintain a connection to the Gateway community through ongoing contact with their RS (including required advising). They use academic support services and participate in leadership opportunities. An additional connection is maintained through the career development class taught by the RS during a student's second term. RSs help students create an academic plan to meet diploma requirements, college, and career goals.

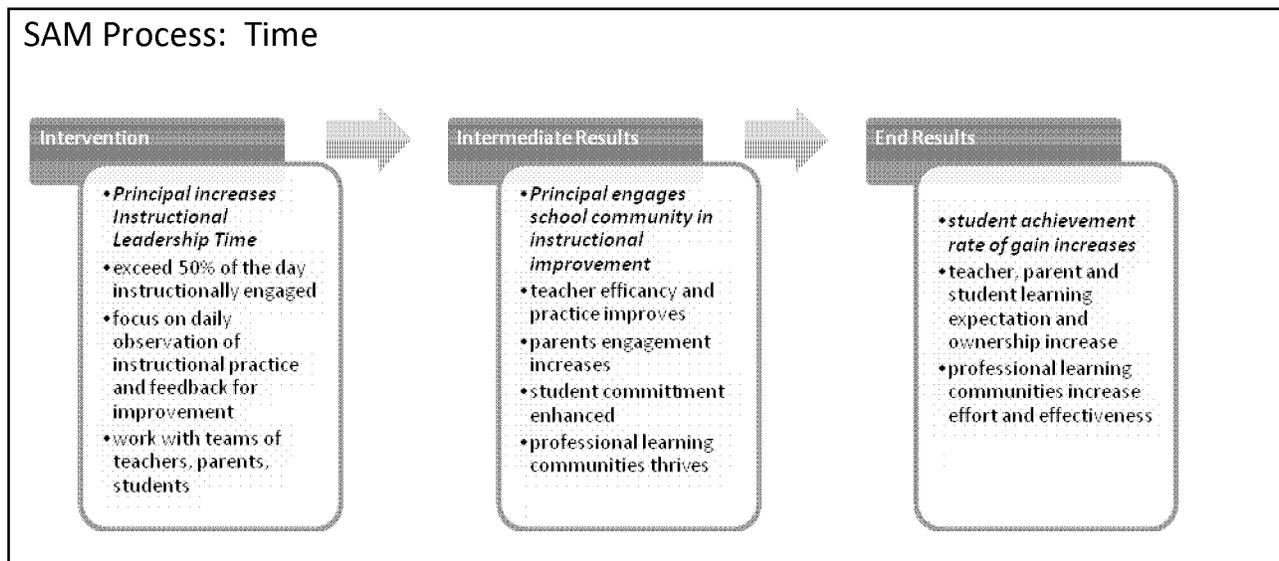
*Graduation.* Students graduate from the program when they complete their diploma requirements. RSs assist graduating students (and anyone "aging out") to transition to further college (e.g., assist with financial aid and scholarship applications) and toward career goals.

7. **Collaboration.** The program relies on a team-based approach to student success. Team members work together to support student progress, and students rely on each other as supports and resources. Forming positive peer groups is part of the transformative power of Gateway to College.
8. **Teaching and Learning.** Program curriculum builds basic academic and life skills. It inspires personal and academic development and is a catalyst for scaffolded growth. Students are given high expectations and regularly engage in rigorous assignments relevant to 21<sup>st</sup> century work and their lives. Faculty are trained on and committed to the Gateway pedagogy.
9. **Student Support.** Student support is woven into the fabric of Gateway both in and out of the classroom. Students are part of a college family grounded in mutual respect where adult thinking and behavior are cultivated. Students reflect on their growth, and their success is celebrated regularly and zestfully. Programs give consideration for how to best serve students' special needs. Partnerships allow programs to serve students holistically and comprehensively.
10. **Professional Growth.** Gateway programs have a strong culture of professional development. Team members are passionate about helping to solve the dropout crisis. Individual development becomes the norm, not the exception. Program team members share good ideas and rely on each other for input and feedback. Self-transformation is part of the culture and is expected from team members and students alike.

## School Administrative Manager (SAM) program

The SAM change process starts with the principal's use of his/her time data to increase instructional leadership time. Time Change coaches, teacher leaders and the SAM help the principal be reflective on how to use the time and, most importantly, to positively impact teacher performance, parent engagement and student learning. Teacher and staff perception of the principal role and school climate issues play a critical part in the effectiveness of the principal's work. Surveys and both annual and daily data collection provide continuous feedback loops to maximize the impact of improvement efforts.

The logic model for The National SAM Project is based on ten years of research that ties principal instructional leadership to student achievement gain. (Leithwood, et.al) Research has established that the school principal is the second most important factor in driving student achievement. The National SAM Project provides baseline principal time use data to help the school leader refocus on instructional leadership work, improving teacher performance, parent efficacy and student engagement, rather than managerial tasks.



The initial study demonstrated a significant change in principal practice and established a correlation with increased student achievement rate of gain at the pilot sites. (Shellinger, ERIC, 2005) As the project expanded to ten states and over 300 schools, The Wallace Foundation commissioned an 18 month independent study examining the change of time use by participating principals.

(PSA, 2009) The study concluded that SAM principals change their daily practice and use of time with significant gains in instructional leadership activities. Proving this intermediate step toward increased student achievement rate of gain is a major accomplishment and has been established in schools of all levels, sizes, configurations and student demographics. Evaluators determined that principal change of practice, increasing instructional leadership time, is **statistically significant** in both model 1 and model 2 SAM schools. High delegation, model 1, 2 & 3 schools, where SAMs or another staff member served as the first responder for five high management tasks, also showed significant gains.

Dr. Joe Murphy of Vanderbilt University, the primary author of the national principal performance standards, ISSLC, said: *“The SAM Project is the first time we can demonstrate a change of principal practice, increasing time spent on instructional leadership, in the history of educational leader preparation and development.”*

**Principals can transform schools and improve student learning when they focus on essential tasks.** Principals are in a unique position to help transform schools, and a strong principal can help change any school into a professional learning community that focuses on improving teaching and learning. Research has shown that these broad sets of leadership practices are linked to improved student learning:

*Setting directions*, including a vision, goals and high expectations;

*Becoming a leader of leaders* by working with other key staff members to distribute various leadership roles;

*Developing teachers and other staff members* by providing instructional leadership and quality professional development and building strong learning communities; and

*Redesigning and transforming the school* by building a culture focused on teaching and learning to achieve goals.

**Management duties prevent principals from devoting more time to instruction.** Even as we demand higher student achievement from our schools, principals are increasingly under pressure to perform duties that pull them away from instructional leadership. Though school leaders would like to be more involved in instructional leadership, studies show that principals – even those in

the highest performing schools – spend up to 75 percent of their time on management. However, with guidance on how to delegate non-instructional tasks, principals spend dramatically more time on practices that lead to improved teaching and learning.

## **THE NATIONAL SCHOOL ADMINISTRATION MANAGER (SAM) PROJECT HELPS GIVE PRINCIPALS THE TIME AND SKILLS TO FOCUS ON INSTRUCTION**

- **The SAM Project has been in development for several years and is being piloted in school districts across the country.**

*The SAM Project began in Louisville, KY, in 2002 the Alternative School Administration Study. The study looked at conditions that prevented principals from making instructional leadership their priority and developed strategies to change those conditions.*

*The Wallace network of educators in ten states developed and implemented the SAM Project in its pilot stage. The network includes educators in California, Delaware, Georgia, Illinois, Iowa, Kansas, Kentucky, Massachusetts, Missouri, New York, and Texas. Participating school districts agreed to fund project-related positions over several years and The National SAM Project, supported by The Wallace Foundation, provided training and data collection costs as part of the pilot.*

- **The SAM Project has created a process that allows principals to focus time on improving instruction and learning.** As a part of the SAM Project, principals do not stop managing their buildings – they simply learn to delegate some of their management responsibilities, creating more time to spend on teaching practice, student learning and school improvement. They continue to oversee the school’s management, but hand over many tedious and time-consuming activities involved with being a building manager.

- **The SAM Project consists of five core elements:**

A readiness and willingness by principals and districts to commit to increasing time for instructional leadership;

An initial Time/Task Analysis Data Collection™ of how the principals spend their time;

Principals’ engaging with a School Administration Manager (SAM) in daily meetings;

External coaching; and

Follow-up Time/Task Analysis Data Collection after one year to assess improvement.

**The SAM Project is primarily a change process and a statewide and district wide change strategy.** The project goes beyond simply adding new staff to help individual principals improve instruction in their schools. It aims to ensure that the entire community is aware that changing principal time use is critical to transforming schools. This is a complex change strategy that SAMs can help facilitate.

**KENTUCKY DEPARTMENT OF EDUCATION**

**SEEK Calculations**

District: 134 Covington Independent - School Year: 2009 - 2010

Date Generated: September 15, 2009 3:35:12 PM

2009 - 2010 Tentative (Jul 20 2009 11:02AM)

Assessment	\$	1,564,375,646	Prior Year End of Year AADA	3,300.795
Per Pupil Assessment	\$	473,939	Growth	0.000
91-92 State Per Pupil Funding	\$	2,843.00	Prior Year AADA Plus Growth	3,300.795
Transportation (Unprorated)	\$	1,206,814	At Risk	2,823.346
Maximum Tier I Rate		47.2	Prior Year December 1 Child Count	
Levied Equivalent Rate		93.6	Low Incidence (Severe: Weight 2.35)	165
Base Year Levied Equivalent Rate		93.6	Moderate Incidence (Moderate: Weight 1.17)	418
Current year Levied Equivalent Rate		97.0	High Incidence (Speech: Weight 0.24)	125
Current Year Second Month Growth Factor %		0.000	Prior Year Home & Hospital	6.937
			Limited English Proficiency	64

SEEK CALCULATION:			NICKELS:		
	Per Pupil	Total			
Guaranteed Base *	\$ 3,866.00	\$ 12,760,873	FSPK		
At Risk	496.00	1,637,258	Local	\$ 782,188	
Home & Hospital	8.00	26,125	State	\$ 394,546	
Exceptional Child	1,062.00	3,505,727	Original Growth Nickel		
Transportation	290.00	955,891	Local	\$ 0	
Limited English Proficiency	7.00	23,753	State	\$ 0	
Calculated Base Funding	\$ 5,729	\$ 18,909,627	Equalized Growth Nickel		
Less 30 Cent Local Effort	1,422.00	4,693,127	Local	\$ 0	
Calculated STATE Portion	\$ 4,307	\$ 14,216,500	Recallable Nickel		
State Tier I	292.00	963,648	Local	\$ 0	
Hold Harmless	0.00	0	State	\$ 0	
Adj to Appropriation **	-425.00	-1,438,748	Equalized Facility Funding Nickel		
Total State SEEK *	\$ 4,163	\$ 13,741,400	Local	\$ 0	
Prior Year Adjustment	0.00	0	State	\$ 0	
Total State Funds	\$ 4163.00	\$ 13,741,400			
Less Capital Outlay		330,080			
Net General Fund SEEK		\$ 13,411,320			

\* CAPITAL OUTLAY in the amount of \$330,080.00 is included in the total guaranteed base.

\*\*ADJ TO APPROPRIATION represents SFSF Funds.

2009 - 2010 Tentative (Jul 20 2009 11:02AM)

Office of District Support Services  
15th Floor Capital Plaza Tower  
500 Mero Street  
Frankfort, KY 40601



Support Education Excellence in Kentucky

## KENTUCKY DEPARTMENT OF EDUCATION

### SEEK Calculations

District: 181 Franklin County - School Year: 2009 - 2010

Date Generated: September 15, 2009 3:35:12 PM

#### 2009 - 2010 Tentative (Jul 20 2009 11:02AM)

Assessment	\$ 3,162,717,851	Prior Year End of Year AADA	5,383.830
Per Pupil Assessment	\$ 587,448	Growth	0.000
91-92 State Per Pupil Funding	\$ 2,362.00	Prior Year AADA Plus Growth	5,383.830
Transportation (Unprorated)	\$ 2,420,528	At Risk	2,214.087
Maximum Tier I Rate	45.9	Prior Year December 1 Child Count	
Levied Equivalent Rate	61.3	Low Incidence (Severe: Weight 2.35)	133
Base Year Levied Equivalent Rate	61.3	Moderate Incidence (Moderate: Weight 1.17)	434
Current year Levied Equivalent Rate	62.4	High Incidence (Speech: Weight 0.24)	190
Current Year Second Month Growth Factor %	0.000	Prior Year Home & Hospital	5.449
		Limited English Proficiency	95

SEEK CALCULATION:			NICKELS:	
	Per Pupil	Total		
Guaranteed Base *	\$ 3,866.00	\$ 20,813,887	FSPK	
At Risk	238.00	1,283,949	Local	\$ 1,581,359
Home & Hospital	4.00	20,521	State	\$ 337,976
Exceptional Child	622.00	3,347,685	Original Growth Nickel	
Transportation	356.00	1,917,247	Local	\$ 0
Limited English Proficiency	7.00	35,258	State	\$ 0
Calculated Base Funding	\$ 5,093	\$ 27,418,547	Equalized Growth Nickel	
Less 30 Cent Local Effort	1,762.00	9,488,154	Local	\$ 0
Calculated STATE Portion	\$ 3,330	\$ 17,930,393	Recallable Nickel	
State Tier I	137.00	737,515	Local	\$ 1,581,359
Hold Harmless	0.00	0	State	\$ 337,976
Adj to Appropriation **	-315.00	-1,687,388	Equalized Facility Funding Nickel	
Total State SEEK *	\$ 3,154	\$ 16,980,520	Local	\$ 0
Prior Year Adjustment	0.00	0	State	\$ 0
Total State Funds	\$ 3,154.00	\$ 16,980,520		
Less Capital Outlay		538,383		
Net General Fund SEEK		\$ 16,442,137		

\* CAPITAL OUTLAY in the amount of \$538,383.00 is included in the total guaranteed base.

\*\*ADJ TO APPROPRIATION represents SFSF Funds.

2009 - 2010 Tentative (Jul 20 2009 11:02AM)

Office of District Support Services  
15th Floor Capital Plaza Tower  
500 Mero Street  
Frankfort, KY 40601



Support Education Excellence in Kentucky

**KENTUCKY DEPARTMENT OF EDUCATION**

**SEEK Calculations**

District: 465 Oldham County - School Year: 2009 - 2010

Date Generated: September 15, 2009 3:35:12 PM

2009 - 2010 Tentative (Jul 20 2009 11:02AM)

Assessment	\$	6,035,438,226	Prior Year End of Year AADA	10,754.502
Per Pupil Assessment	\$	561,201	Growth	0.000
91-92 State Per Pupil Funding	\$	2,308.00	Prior Year AADA Plus Growth	10,754.502
Transportation (Unprorated)	\$	4,819,584	At Risk	1,556.404
Maximum Tier I Rate		45.6	Prior Year December 1 Child Count	
Levied Equivalent Rate		70.3	Low Incidence (Severe: Weight 2.35)	328
Base Year Levied Equivalent Rate		70.8	Moderate Incidence (Moderate: Weight 1.17)	761
Current year Levied Equivalent Rate		70.3	High Incidence (Speech: Weight 0.24)	579
Current Year Second Month Growth Factor %		0.000	Prior Year Home & Hospital	4.982
			Limited English Proficiency	245

SEEK CALCULATION:			NICKELS:	
	Per Pupil	Total		
Guaranteed Base *	\$ 3,866.00	\$ 41,576,905	FSPK	
At Risk	84.00	902,559	Local	\$ 3,017,719
Home & Hospital	2.00	18,762	State	\$ 816,261
Exceptional Child	647.00	6,959,303	Original Growth Nickel	
Transportation	355.00	3,817,487	Local	\$ 3,017,719
Limited English Proficiency	8.00	90,928	State	\$ 816,261
Calculated Base Funding	\$ 4,962	\$ 53,365,944	Equalized Growth Nickel	
Less 30 Cent Local Effort	1,684.00	18,106,315	Local	\$ 3,017,719
Calculated STATE Portion	\$ 3,279	\$ 35,259,629	Recallable Nickel	
State Tier I	161.00	1,736,257	Local	\$ 3,017,719
Hold Harmless	0.00	0	State	\$ 816,261
Adj to Appropriation **	-313.00	-3,364,159	Equalized Facility Funding Nickel	
Total State SEEK *	\$ 3,127	\$ 33,631,727	Local	\$ 0
Prior Year Adjustment	0.00	0	State	\$ 0
Total State Funds	\$ 3127.00	\$ 33,631,727		
Less Capital Outlay		1,075,450		
Net General Fund SEEK		\$ 32,556,277		

\* CAPITAL OUTLAY in the amount of \$1,075,450.00 is included in the total guaranteed base.

\*\*ADJ TO APPROPRIATION represents SFSF Funds.

2009 - 2010 Tentative (Jul 20 2009 11:02AM)

Office of District Support Services  
15th Floor Capital Plaza Tower  
500 Mero Street  
Frankfort, KY 40601



Support Education Excellence in Kentucky  
Page 130 of 174



## The Education Trust

Closing the gaps in opportunity and achievement, pre-K through college.

# Education Watch State Report

APRIL 2009

### Improving Achievement and Closing Gaps

All around America, people are talking about ways to improve education. Important discussions are focusing on the gaps in educational opportunity and achievement that separate low-income students and students of color from others. Most constructive conversations on the topic begin not with finger-pointing or theorizing but with a careful look at hard evidence.

In this document, The Education Trust presents an array of data in a consistent format so that educators, parents, and public officials in every state and the nation can squarely face this issue. Each "Education Watch State Report" shows how well schools are serving different groups of young people. Similar disturbing patterns exist in virtually every state and the nation:

- Educational performance is too low, and big gaps separate low-income students and students of color from others.
- Improvement, while real, is far too slow.

Changing these patterns is essential. One reason is that America's population is changing fast. Indeed, low-income students and students of color now constitute a majority of the nation's public school students. But opportunity gaps have rigged the system against their educational success. This report documents these gaps and shows the resulting toll in student achievement.

The good news is that achievement gaps are not inevitable. Around the country, evidence is unequivocal that low-income students and students of color achieve at high levels when schools and school systems are organized to support student success.

We hope you will use the information in this report to close the opportunity and achievement gaps once and for all.



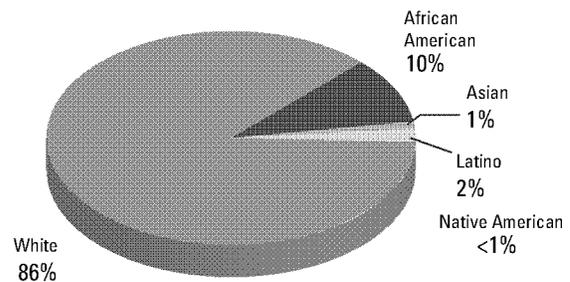
## KENTUCKY

### Vital Statistics

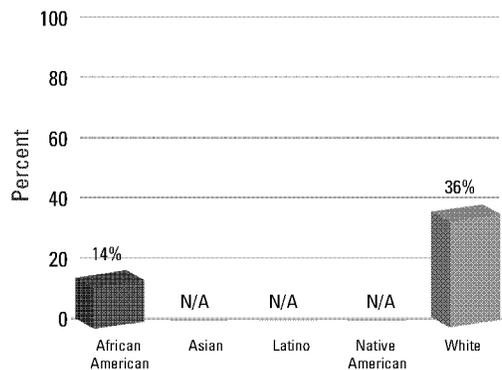
An overview of the state's student population, the levels of achievement in reading and mathematics, and high school and college graduation rates.

#### Public K-12 Enrollment, 2005-06

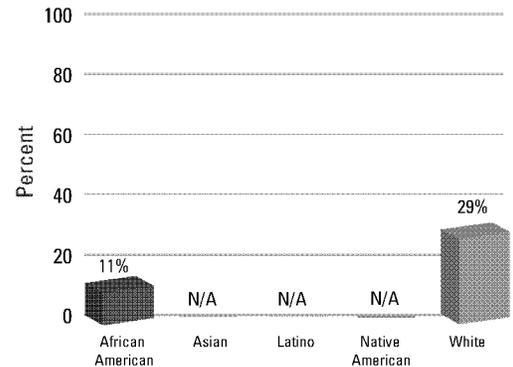
(636,647 total students)



#### Reading—Fourth-Grade Students Scoring Proficient or Higher on the National Assessment in 2007

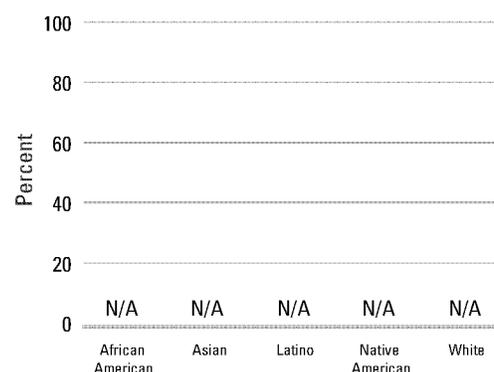


#### Math—Eighth-Grade Students Scoring Proficient or Higher on the National Assessment in 2007



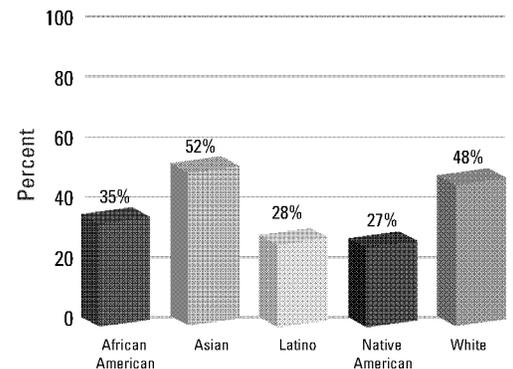
#### On-Time High School Graduation Rates

(Averaged Freshman Graduation Rate, 2006)



#### Public College Graduation Rates

(Freshmen Entering Fall 2000 Who Graduated By 2006)



# Getting Started How to Use This Document

## Inside Education Watch

<b>Demographics</b>	3
<b>Achievement</b>	
Fourth-Grade Reading	4
Eighth-Grade Mathematics	7
Eighth-Grade Science	10
<b>Attainment</b>	
High School Graduation	11
College Graduation	11
<b>Opportunity</b>	
Teacher Quality	12
Curriculum	12
K-12 Funding	13
College Affordability	13
<b>Notes</b>	14

## Helpful Hints

Throughout this report, explanatory information appears in the shaded areas to help you interpret the various charts. If you are having difficulty understanding a chart, look here for clarification. For more in-depth information about data sources, technical terms, and calculations, see the Notes section at the end of the report. In addition, small inconsistencies in some numbers or percentages are due to rounding.

## Data to Support Honest Conversations About Where We Are and What We Need to Do

Data are at the heart of any successful school-improvement process, but understanding which data to focus on and how to analyze the information can be challenging. In this report, The Education Trust offers a roadmap to help you understand education data commonly collected in the states and the nation. The report contains information in four areas:

### Demographics: A Snapshot of Today and Tomorrow

This section provides a context for understanding other data presented in this report. As you will see, performance outcomes vary greatly across student groups. Knowing the size of each student group and how fast each is growing can help education leaders plan more effectively to meet the academic needs of all students.

### Achievement: Reading, Mathematics, and Science

Results from the National Assessment of Educational Progress (NAEP) provide unique opportunities for state-to-state comparisons of overall student performance, differences among groups, trends over time, and progress among states. NAEP results also provide a powerful external check on states' standards and assessments. The results of state assessments appear here, but wide variations in these assessments prevent comparisons among states.

This report focuses on results at crucial educational turning points: fourth-grade reading, when students begin to use their reading skills to acquire content knowledge in other subjects, and eighth-grade mathematics, when students transition from computation to the abstract reasoning required in higher level mathematics classes. The report also includes NAEP science data for the first time.

### Attainment: High School and College Graduation

Achievement alone does not tell the full story of student success. A high school diploma is a basic requirement for a good job and additional education. And in an information economy, many jobs require a bachelor's degree or higher. Low graduation rates adversely affect the economy of your state and have lifelong consequences for students.

### Opportunity: Teacher Quality, Academic Rigor, Funding

Too often, our system takes those who start from behind and gives them less of everything they need to succeed: high-quality teachers, a rigorous curriculum, and adequate and equitable funding. What's more, most states do not even collect sufficient data on educational opportunity. This final section examines the available data so states can begin to close the opportunity and achievement gaps.

---

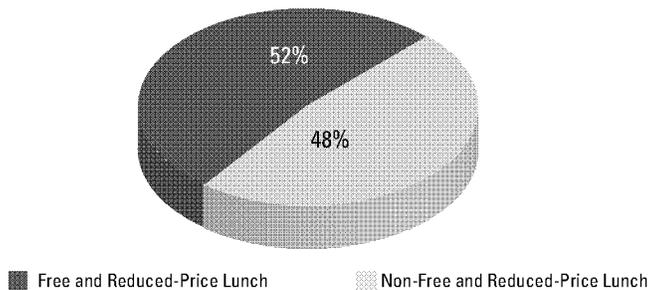
## About The Education Trust

The Education Trust promotes high academic achievement for all students at all levels—pre-kindergarten through college. We work alongside parents, educators, policymakers, and community and business leaders across the country in transforming schools and colleges into institutions that serve all students well. Lessons learned in these efforts, together with unflinching data analyses, shape our state and national policy agendas. Our goal is to close the gaps in opportunity and achievement that consign far too many young people—especially those who are black, Latino, American Indian, or from low-income families—to lives on the margins of the American mainstream.

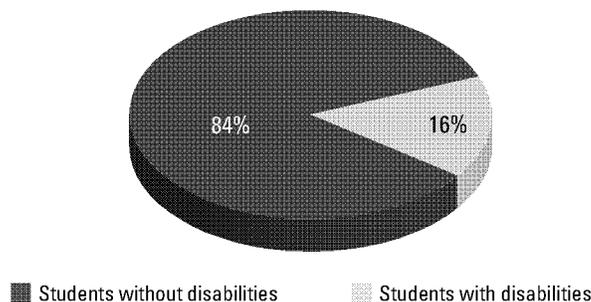
© Copyright 2009, The Education Trust

# Demographics

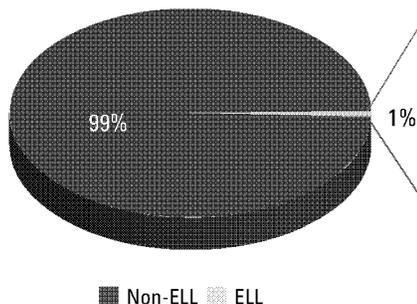
**Low-Income Students, 2005-06**  
Percentage eligible for free and reduced-price lunch



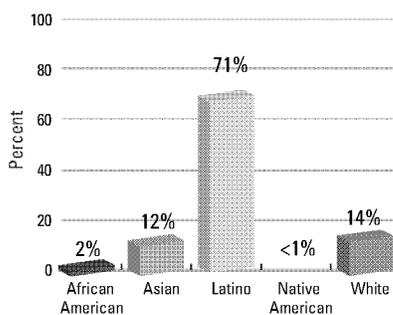
**Students With Disabilities, 2005-06**  
Percentage classified under IDEA



**English-Language Learners, 2005-06**



**Distribution of English-Language Learners, 2005-06**



Public schools educate students from diverse backgrounds. These charts show the percentages of low-income students, students with disabilities, and English-language learners enrolled in your schools.

## A Shifting Population

Changes in state population ages 5-24, 2006-20

	Population 2006	Projected Population 2020	Projected Change 2006-20
<b>African American</b>	95,959	98,254	2%
<b>Asian</b>	9,487	10,994	16%
<b>Latino</b>	12,922	15,426	19%
<b>Native American</b>	1,865	1,900	2%
<b>White</b>	970,540	894,820	-8%
<b>Total</b>	1,090,773	1,021,394	-6%

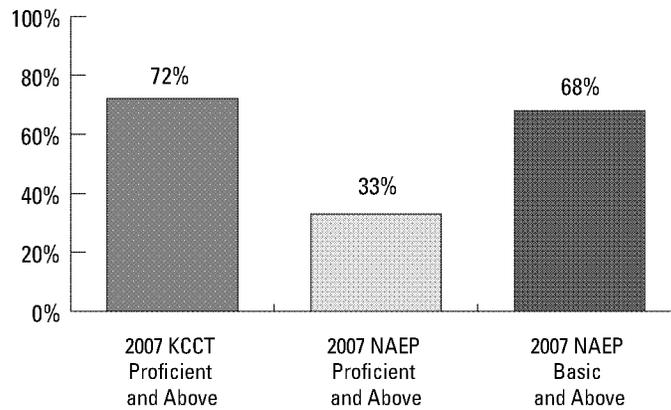
This table shows the youth population of your state in 2006 and U.S. Census Bureau projections of the population in 2020. In addition to noting the overall change in population in your state, look at the third column to see which groups are growing fastest.

# Achievement: Reading

All states annually test students' knowledge and skills to determine whether students are meeting grade-level standards. But states' tests and standards vary widely, making comparisons among states impossible. One way to assess the rigor of state standards is to compare student proficiency rates on state tests with those on the NAEP exam.

## Are students proficient in reading?

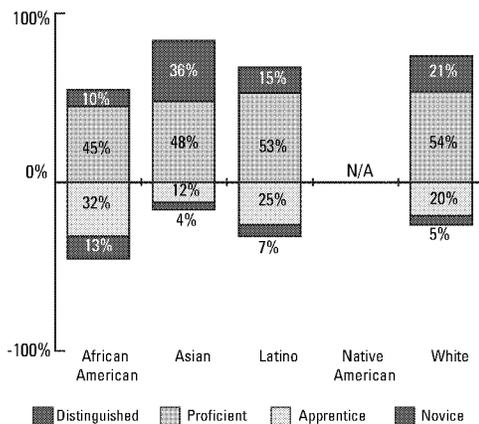
**Grade 4 Overall Reading/English Language Arts Performance**  
Kentucky Core Content Test and NAEP



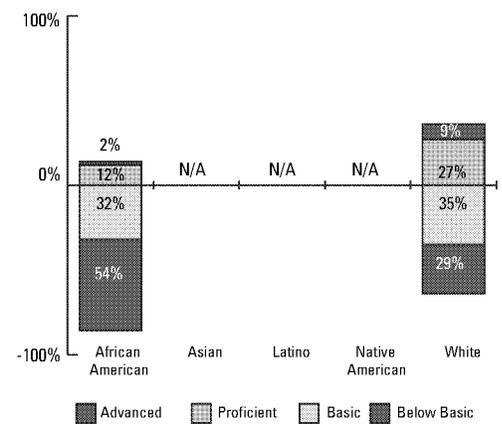
Overall averages mask underlying gaps in achievement. The horizontal line across the middle of both charts represents the "proficient" level on the state assessment and NAEP, respectively. Students falling below this line are below proficient.

## Do results vary by group?

**2007 Kentucky Core Content Test**  
Grade 4 Reading



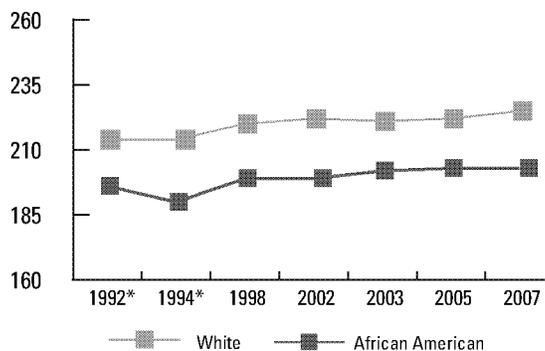
**2007 NAEP—Kentucky**  
Grade 4 Reading



This chart shows the fourth-grade reading performance of various student groups over time. The pattern is encouraging if it shows rising student achievement and narrowing gaps between student groups.

## Is Kentucky closing the gap?

NAEP Grade 4 Reading



	Score Gap		
	1998	2003	2007
<b>African American-White Gap</b>	21	19	22

\* NAEP did not permit accommodations for students with disabilities and English-Language Learners for these years.

# Achievement: Reading

## Is NAEP performance improving?

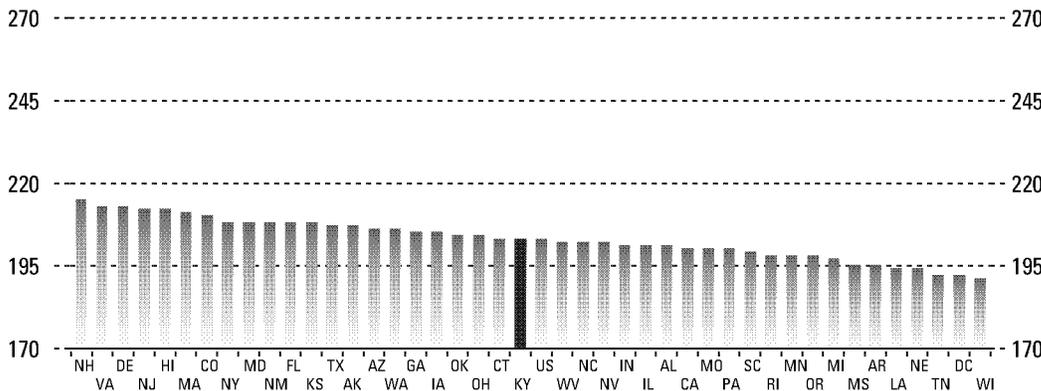
Grade 4 Reading

	NAEP Scale Score		Change from 1998-2007	
	1998	2007	State Change	Biggest Gainers
<b>African American</b>	199	203	4	24 (DE)
<b>Asian</b>	N/A	N/A	N/A	30 (MA)
<b>Latino</b>	N/A	N/A	N/A	42 (DE)
<b>Native American</b>	N/A	N/A	N/A	17 (NM)
<b>White</b>	220	225	5	15 (DE, FL)
<b>All</b>	218	222	4	18 (DE, DC, FL)

The first three columns of numbers in this table show the progress of fourth-grade students on the NAEP reading test. The last column shows the progress of the states that made the greatest gains over the same period for the same student group. From 1998 to 2007, Delaware had the largest gains for African-American, Latino, and white students, proving it is possible to make significant gains for all students.

## How does the reading performance of African-American students compare across states?

2007 NAEP Grade 4 Reading Average Scale Score



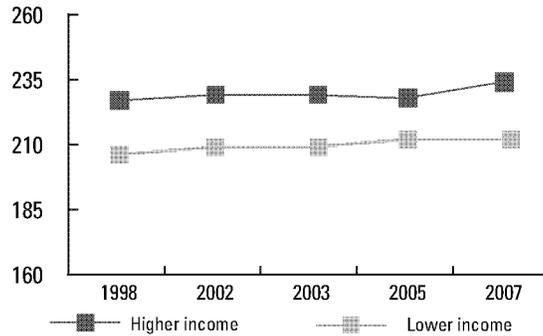
Comparing NAEP results across states reveals that some states are far more successful than others in educating students of color. This chart compares the performance of fourth-graders from the largest population of color in your state with the same population in other states.

# Achievement: Reading

Just as the chart on page 4 illustrates the gaps in reading achievement among fourth-graders of different ethnic backgrounds, this chart does the same for higher income and lower income students.

## Is Kentucky closing the gap?

NAEP Grade 4 Reading



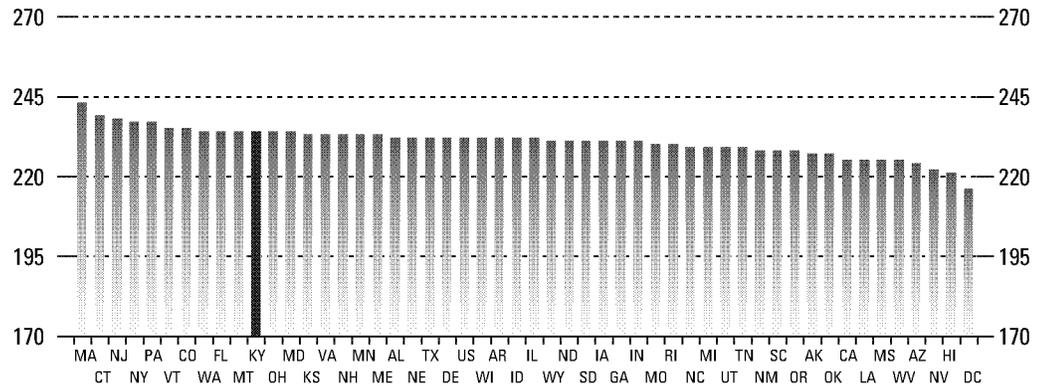
	Score Gap		
	1998	2003	2007
<b>Gap Between Lower Income and Higher Income Students</b>	21	20	22

(Lower income students are eligible for free or reduced-price lunch. Higher income students are not.)

The next two charts display the states from highest to lowest according to the reading achievement of fourth-graders from higher income and lower income families.

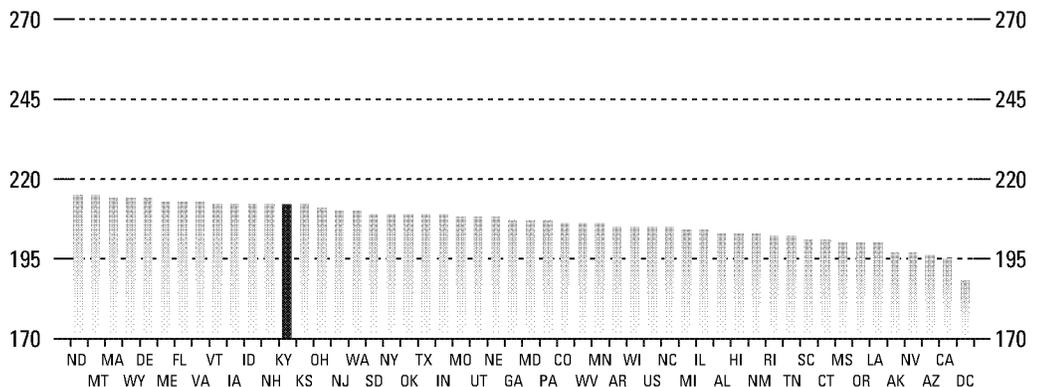
## How does the reading performance of higher income students compare across states?

2007 Grade 4 Reading Average Scale Score



## How does the reading performance of lower income students compare across states?

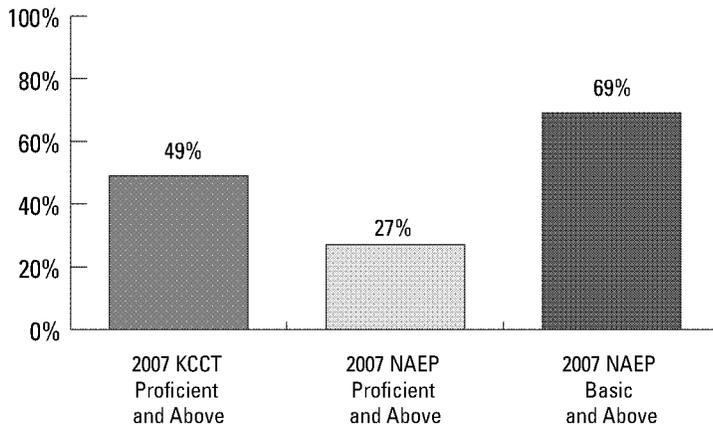
2007 Grade 4 Reading Average Scale Score



# Achievement: Mathematics

## Are students proficient in mathematics?

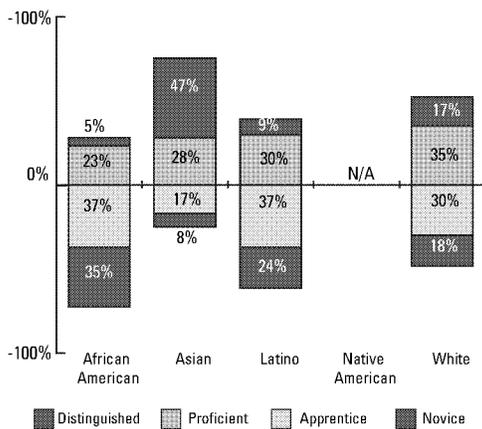
**Grade 8 Overall Mathematics Performance**  
Kentucky Core Content Test and NAEP



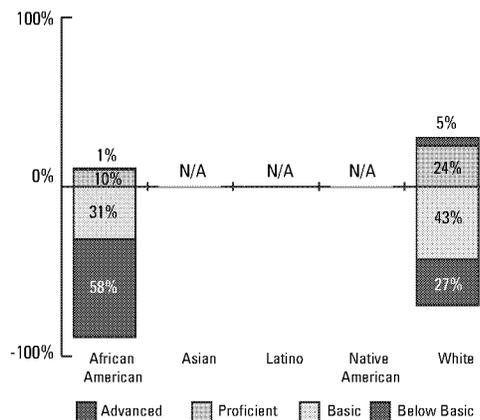
All states annually assess students' knowledge and skills to determine whether students are meeting grade-level standards. But states' standards and tests vary widely, making comparisons among states impossible. One way to assess the rigor of state standards is to compare student proficiency levels on the state test with those on the NAEP exam.

## Do results vary by group?

**2007 Kentucky Core Content Test**  
Grade 8 Mathematics



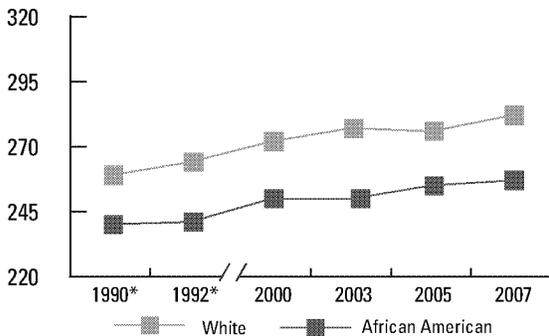
**2007 NAEP—Kentucky**  
Grade 8 Mathematics



Overall averages mask underlying gaps in achievement. The horizontal line across the middle of both charts represents the "proficient" level on the state assessment and NAEP, respectively. Students falling below this line are below proficient.

## Is Kentucky closing the gap?

NAEP Grade 8 Mathematics



	Score Gap		
	2000	2003	2007
<b>African American-White Gap</b>	22	27	25

This chart shows eighth-grade mathematics performance of various student groups over time. The pattern is encouraging if it shows rising student achievement combined with narrowing gaps between student groups.

\* NAEP did not permit accommodations for students with disabilities and English-Language Learners for these years.

# Achievement: Mathematics

The first three columns of numbers in this table show the progress of eighth-grade students on the NAEP mathematics test. The last column shows the progress of the states that made the greatest gains over the same period for the same student group. From 2000 to 2007, Massachusetts posted the largest gains for Latino, Asian, and white students and the second largest for African-American students, proving it is possible to make significant gains for all students.

## Is NAEP performance improving?

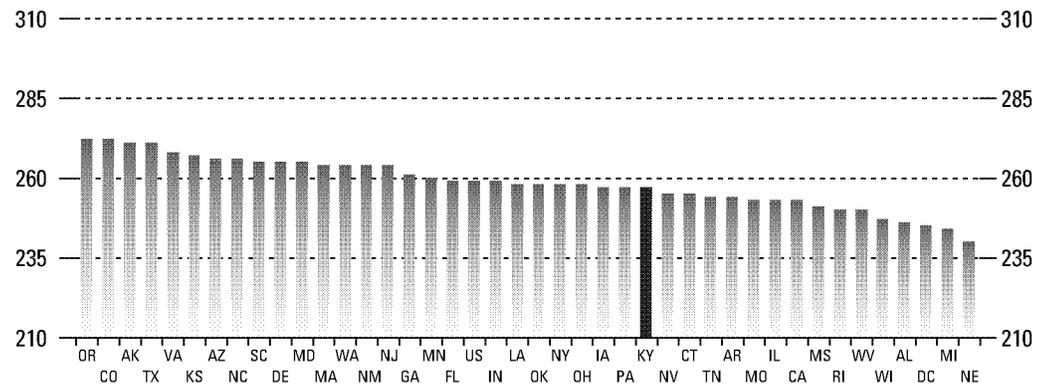
### Grade 8 Mathematics

	NAEP Scale Score		Change from 2000-2007	
	2000	2007	State Change	Biggest Gainers
<b>African American</b>	250	257	7	27 (AR)
<b>Asian</b>	N/A	N/A	N/A	23 (MA)
<b>Latino</b>	N/A	N/A	N/A	24 (MA)
<b>Native American</b>	N/A	N/A	N/A	21 (ND)
<b>White</b>	272	282	10	21 (MA)
<b>All</b>	270	279	9	19 (MA)

Comparing NAEP results across states reveals that some states are far more successful than others in educating students of color. This chart compares the performance of eighth-graders from the largest population of color in your state with the same population in other states.

## How does the mathematics performance of African-American students compare across states?

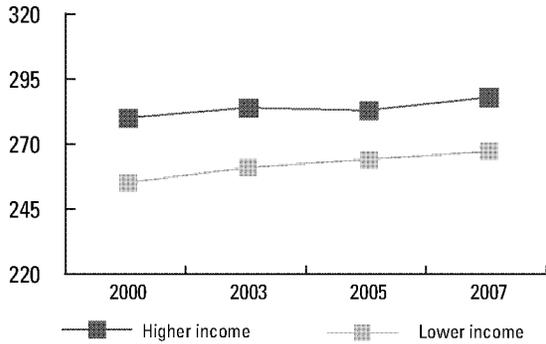
### 2007 Grade 8 Mathematics Average Scale Score



# Achievement: Mathematics

## Is Kentucky closing the gap?

NAEP Grade 8 Mathematics



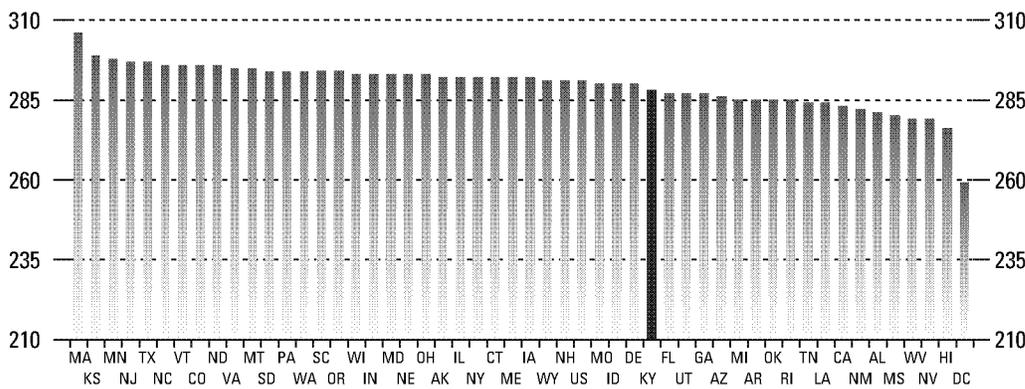
	Score Gap		
	2000	2003	2007
<b>Gap Between Lower Income and Higher Income Students</b>	25	23	21

(Lower income students are eligible for free or reduced-price lunch. Higher income students are not.)

Just as the charts on page 7 illustrate the gaps in mathematics achievement among eighth-graders of different ethnic backgrounds, this chart does the same for higher income and lower income students.

## How does the mathematics performance of higher income students compare across states?

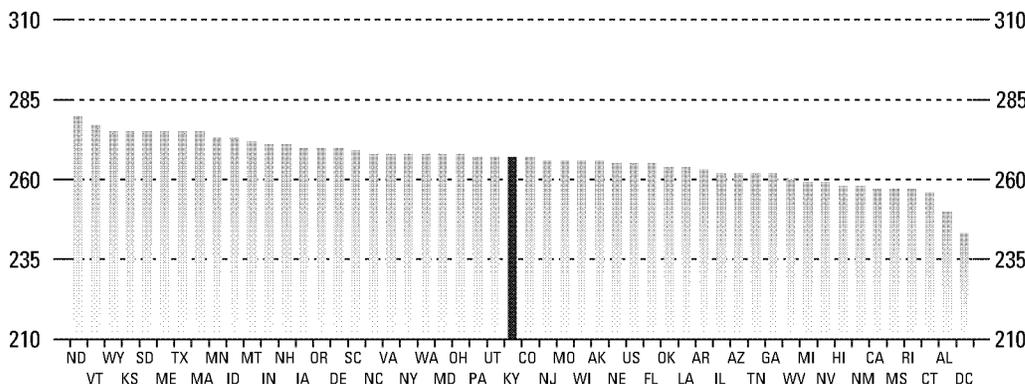
2007 Grade 8 Mathematics Average Scale Score



The next two charts display the states from highest to lowest according to the mathematics achievement of eighth-graders from higher income and lower income families.

## How does the mathematics performance of lower income students compare across states?

2007 Grade 8 Mathematics Average Scale Score

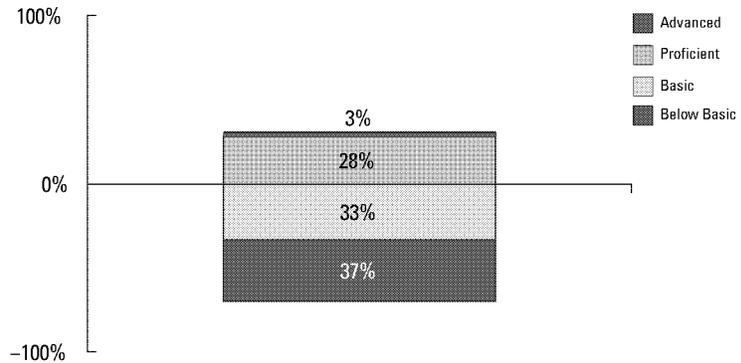


# Achievement: Science

NAEP remains the most widely available assessment of states' science performance.

## Are students proficient in science?

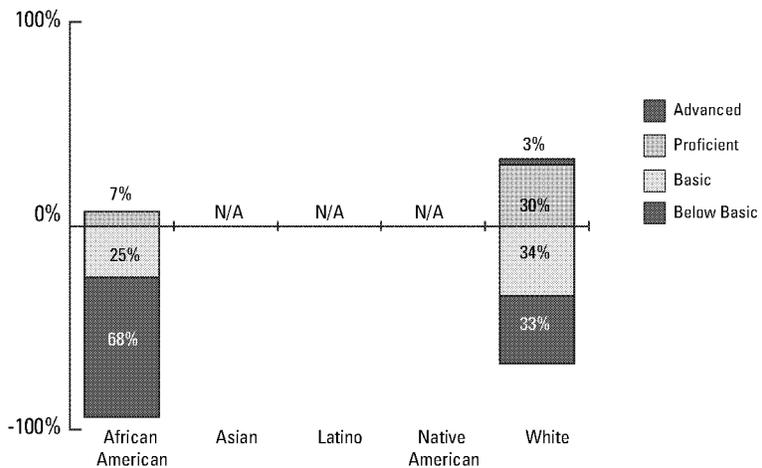
2005 NAEP—Kentucky  
Grade 8 Science, All Students



Overall averages mask underlying gaps in achievement. The horizontal line across the middle of the chart represents the "proficient" level on the NAEP science exam. Students falling below this line are below proficient.

## Do results vary by group?

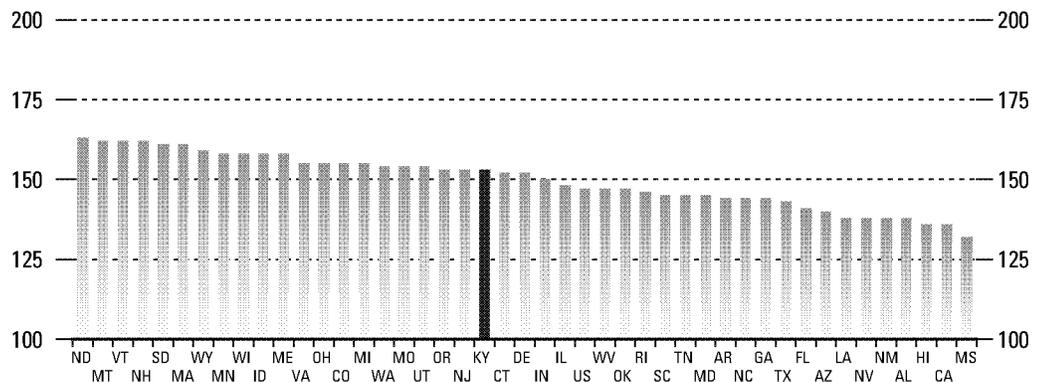
2005 NAEP—Kentucky  
Grade 8 Science



Some states are far more successful in teaching science than others. This chart displays science performance in all 44 states for which NAEP data are available, from highest to lowest.

## How does science performance compare with that in other states?

Grade 8 Science, All Students



# Attainment

## Who makes it through high school on time?

Estimated percentage of the freshman class of 2002 that graduated in 2006

	Four-Year High School Grad Rate
<b>African American</b>	N/A
<b>Asian</b>	N/A
<b>Latino</b>	N/A
<b>Native American</b>	N/A
<b>White</b>	N/A
<b>Overall</b>	78%

Many states do not collect or report accurate data on graduation rates. This chart presents the best available estimate of on-time graduation across the states, the Averaged Freshman Graduation Rate.

## Who makes it to college?

Comparison of the high school graduating class of 2006 with enrollments in the state's public colleges and universities

	High School Graduates, Spring 2006	Two-Year Public College Enrollment, 2006-07	Four-Year Public College Enrollment, 2006-07
<b>African American</b>	N/A	8%	9%
<b>Asian</b>	N/A	1%	2%
<b>Latino</b>	N/A	1%	1%
<b>Native American</b>	N/A	<1%	<1%
<b>White</b>	N/A	79%	86%
<b>Other</b>	N/A	11%	2%
<b>Total</b>	N/A	100%	100%
<b>Number</b>	38,449	118,505	106,689

This chart shows the distribution of high school graduates and public-college enrollments by race and ethnicity. If enrollments in your state's four-year public colleges are significantly different from the demographics of the high school graduating class, students of color may be getting lost in the transition from high school to college or may be attending two-year colleges more often than four-year colleges.

*(Read across the rows to see patterns of underrepresentation in college enrollments.)*

## Who graduates from public colleges and universities?

Percentage of first-time, full-time college freshmen in 2000 who received a bachelor's degree by 2004 and 2006

	Four-Year Grad Rate, 2004	Six-Year Grad Rate, 2006	Top States' Six-Year Grad Rates, 2006*
<b>African American</b>	14%	35%	52%
<b>Asian</b>	23%	52%	72%
<b>Latino</b>	10%	28%	67%
<b>Native American</b>	19%	27%	60%
<b>White</b>	22%	48%	71%
<b>Overall</b>	21%	46%	66%

\*Median of top five performing states

Too few college freshmen, regardless of background, graduate from four-year colleges within four years—or even six years.

## What proportion of adults has earned a bachelor's degree?

Percentage of adults 25 and older with a bachelor's degree or higher in 2006

	Kentucky	Top States' Degree Attainment*
<b>African American</b>	13%	33%
<b>Asian</b>	54%	68%
<b>Latino</b>	16%	29%
<b>Native American</b>	9%	24%
<b>White</b>	20%	40%
<b>Overall</b>	20%	35%

\*Median of top five performing states

This chart compares degree attainment rates for different groups in your state with those in the top states.

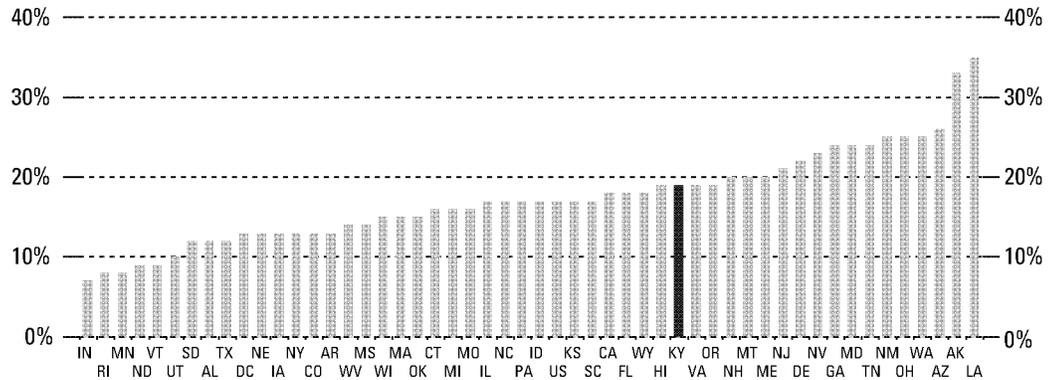
# Opportunity

One important measure of educational opportunity is the degree to which students are taught by teachers with knowledge of the subject they are teaching. This chart shows the percentage of core academic classes taught by out-of-field teachers in every state.

## Access to Qualified Teachers

### How does Kentucky compare?

Percentage of core academic classes, grades 7-12, taught by teachers with neither a major nor certification in the subject taught, 2003-04



Students do not have equal access to a challenging curriculum. One curriculum recognized nationwide for its rigor is the Advanced Placement (AP) program. AP students take college-level courses that culminate in challenging tests.

*(Read this chart horizontally. If the percentage in the first column is higher than the percentages in the second, third, or fourth columns, this student group is underrepresented among AP test takers.)*

## Access to a Rigorous Curriculum

### Who takes Advanced Placement tests?

	Public 11th & 12th Grade Enrollment	Calculus AB	English Language and Composition	Biology
<b>African American</b>	10%	3%	5%	3%
<b>Asian</b>	1%	5%	3%	6%
<b>Latino</b>	1%	1%	2%	1%
<b>Native American</b>	<1%	<1%	<1%	<1%
<b>White</b>	88%	88%	87%	86%
<b>Other</b>	N/A	3%	4%	4%
<b>Number</b>	82,918	2,318	2,304	1,502

*Example: Of all AP test takers, this proportion was African American.*

AP tests are scored on a five-point scale, with scores of 3, 4, or 5 qualifying students for credit at many colleges.

*(Read this chart vertically. If schools were teaching all students to the same high levels, we would expect to see similar pass rates across groups.)*

### Who earns passing grades on Advanced Placement tests?

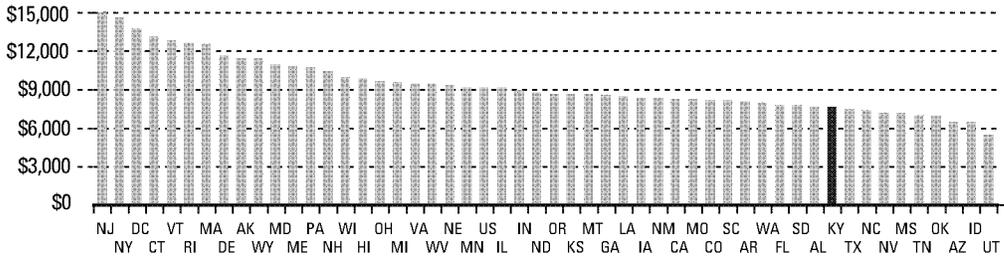
	Calculus AB	English Language and Composition	Biology
<b>African American</b>	22%	36%	34%
<b>Asian</b>	56%	68%	69%
<b>Latino</b>	59%	62%	50%
<b>Native American</b>	N/A	N/A	N/A
<b>White</b>	49%	58%	45%
<b>Overall</b>	49%	57%	46%

*Example: Of all African-American students who took the AP Calculus exam, this percentage scored a 3, 4, or 5.*

# Opportunity

## K-12 Funding

Total federal, state, and local spending per pupil, 2005-06



Per-pupil state and local funding gaps between districts, 2005-06

	Average Per-Pupil Funding	Differences in Funding Per Pupil*	Percent Differences in Funding**
<b>High-poverty districts</b>	\$7,404	+\$906	+14%
<b>Low-poverty districts</b>	\$6,498		
<b>High-minority districts</b>	\$7,468	+\$234	Difference <5%
<b>Low-minority districts</b>	\$7,233		

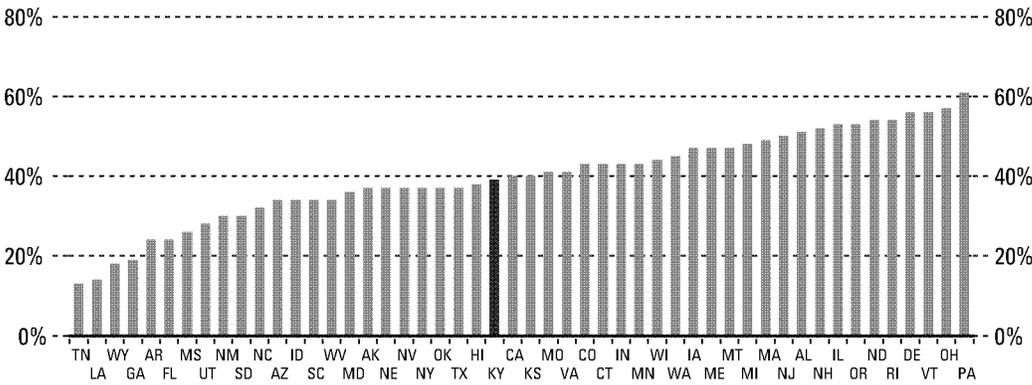
\* A negative number indicates that high-poverty or high-minority districts receive fewer state and local dollars per student than low-poverty or low-minority districts.

\*\* For example, -10% indicates that high-poverty or high-minority districts receive 10% less in state and local funding per student than high-poverty or high-minority districts.

## College Affordability

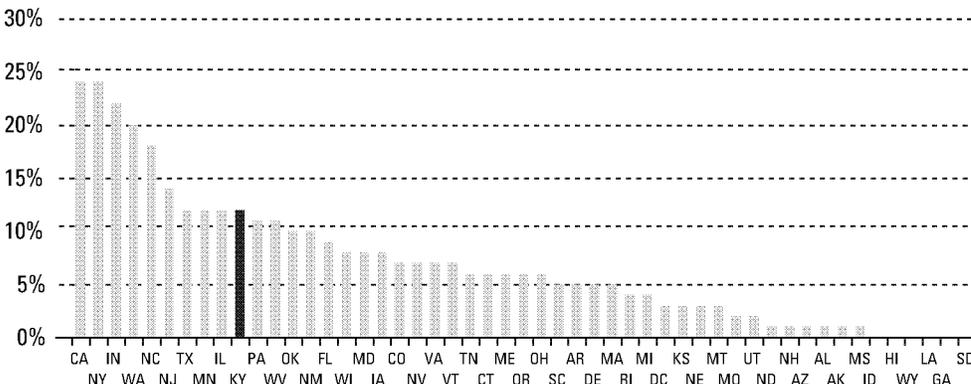
### How expensive is college for low-income families?

Share of income poor families pay for tuition at four-year public institutions



### How does your state help low-income families pay for college?

Need-based state aid as a percentage of average tuition, 2006



The first chart shows total unadjusted federal, state, and local education spending across the states. Overall spending levels vary widely, but this does not tell the whole story. It is important to look within states to see whether revenues are equitably distributed to all districts.

The second chart examines state and local revenues and how those funds are allocated to districts based on the percentage of low-income and minority students they serve. Federal education dollars are excluded, as these monies typically constitute less than 10 percent of total education revenues and are intended to supplement, rather than supplant, revenues from state and local sources. In many states and in the nation overall, the highest poverty or the highest minority districts receive fewer state and local dollars per student than the lowest poverty or lowest minority districts.

Paying for college can be a struggle, especially for low-income families. The first chart compares the ability of students from low-income families in each state to pay the average tuition at the state's four-year public colleges and universities. In states on the left side of the chart, students from low-income families may have less difficulty paying tuition.

The next chart shows how states compare in providing financial aid to offset the costs of tuition for students from low-income families. States on the left side of the chart provide higher proportions of tuition aid to financially needy students.

## Vital Statistics

### Page 1

#### Public K-12 Enrollment, 2005-06

U.S. Department of Education, National Center for Education Statistics, Common Core of Data, Build a Table, <http://nces.ed.gov/ccd/>.

#### Notes:

- K-12 enrollment percentages do not include pre-K or ungraded enrollment.
- The National Center for Education Statistics does not report a separate "other" category for ethnicity.

#### Reading—Fourth-Grade Students Scoring Proficient or Higher; Math—Eighth-Grade Students Scoring Proficient or Higher, 2007

U.S. Department of Education, National Center for Education Statistics, NAEP Data Explorer, National Assessment of Educational Progress (NAEP) 2007, <http://nces.ed.gov/nationsreportcard/nde/>.

**Note:** NAEP data are not reported for racial/ethnic groups when the sample size is too small for a reliable estimate.

#### On-Time High School Graduation Rates

Robert Stillwell and Lee Hoffman, "Public School Graduates and Dropouts From the Common Core of Data: School Year 2005-06" (NCES 2008-353), Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, Institute of Education Sciences, 2008.

#### Notes:

- The Averaged Freshman Graduation Rate is based on the number of graduates in a state in 2006 divided by the averaged freshman population in 2002. Averaged freshman population is equal to the average of the eighth-grade population in 2001, the ninth-grade population in 2002, and the tenth-grade population in 2003.
- Rapid shifts in state population can distort graduation rate estimates.
- Graduation rates are not shown for racial/ethnic groups when the averaged freshman population is less than 200 students.

#### Public College Graduation Rates

The Education Trust calculations from the U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Graduation Rate Survey, <http://nces.ed.gov/ipeds/>.

#### Notes:

- Six-year percentages represent the proportion of students who enrolled as first-time, full-time bachelor's degree-seeking freshmen in fall 2000 and received a bachelor's degree from the same institution before the end of the 2005-06 school year.
- Graduation rate calculations do not include nonresident aliens.
- Graduation rates are not shown when the cohort size is less than ten students.
- For each state, The Education Trust includes only public, four-year degree-granting institutions in calculating the college graduation rate.

## Demographics

### Page 3

#### Low-Income Students, 2005-06

U.S. Department of Education, National Center for Education Statistics, Common Core of Data, Build a Table, <http://nces.ed.gov/ccd/>.

#### Students With Disabilities, 2005-06; English-Language Learners, 2005-06

U.S. Department of Education, Office of Civil Rights, Civil Rights Data Collection, 2006, <http://ocrdata.ed.gov/ocr2006rv30/xls/2006Projected.html>.

#### A Shifting Population

The Education Trust calculations from the U.S. Census Bureau, State Population Projections, State Projections 1995-2025 based on 1990 Census (released 1996), [www.census.gov/population/www/projections/stproj.html](http://www.census.gov/population/www/projections/stproj.html).

## Achievement

### Pages 4-9: Reading and Mathematics

#### State Assessments, 2007

Data collected from state department of education Web sites, except for Hawaii and Vermont. Data for Hawaii and Vermont are from the *Consolidated State Performance Reports for 2006-07*, submitted to the U.S. Department of Education, [www.ed.gov/admins/lead/account/consolidated/sy06-07part1/index.html](http://www.ed.gov/admins/lead/account/consolidated/sy06-07part1/index.html).

#### Notes:

- Data reflect spring 2007 assessment results for most states. For states that assess students in the fall (Indiana, Michigan, New Hampshire, North Dakota, Rhode Island, Vermont, and Wisconsin), data reflect fall 2007 assessment results.
- State assessment scores for mathematics are reported for eighth grade for all states except California. We report California's seventh-grade state assessment scores because the state's eighth-graders take end-of-course exams in math, and a single, statewide eighth-grade math score is not available.
- Some states report data for additional ethnic groups beyond those required by No Child Left Behind. When available, such data have been reported for these states.

#### NAEP, 2007

U.S. Department of Education, National Center for Education Statistics, NAEP Data Explorer, National Assessment of Educational Progress (NAEP) 2007, <http://nces.ed.gov/nationsreportcard/nde/>.

#### Notes:

- NAEP data are not reported for racial and ethnic groups when the sample size is too small for a reliable estimate.
- NAEP scale score changes may not be statistically significant.
- NAEP racial and ethnic data over time and multiple-state comparison graphs include the largest populations of color within the state's 2005-06 public K-12 enrollment.
- Low-income status is defined as eligibility for the free or reduced-price lunch program.

### Page 10: Science

#### NAEP, 2005

U.S. Department of Education, National Center for Education Statistics, NAEP Data Explorer, National Assessment of Educational Progress (NAEP) 2005, <http://nces.ed.gov/nationsreportcard/nde/>.

## Attainment

### Page 11

#### Who makes it through high school on time?

Robert Stillwell and Lee Hoffman, "Public School Graduates and Dropouts From the Common Core of Data: School Year 2005-06" (NCES 2008-353), Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, Institute of Education Sciences, 2008.

#### Notes:

- The Averaged Freshman Graduation Rate is based on the number of graduates in a state in 2006 divided by the averaged freshman population in 2002. Averaged freshman population is equal to the average of the eighth-grade population in 2001, ninth-grade population in 2002, and tenth-grade population in 2003.
- Rapid shifts in state population can distort graduation rate estimates.
- Graduation rates are not shown for racial/ethnic groups when the averaged freshman population is less than 200 students.

#### Who makes it to college?

#### High School Graduates, Spring 2006

The Education Trust calculations of state graduate numbers is based on Robert Stillwell and Lee Hoffman, "Public School

Graduates and Dropouts From the Common Core of Data: School Year 2005-06" (NCES 2008-353), Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, Institute of Education Sciences, 2008.

**Note:** The total number of high school graduates represents the sum of graduates from each racial subgroup, except for Kentucky, New Hampshire, and North Carolina. In those states, only the total number of graduates (not the number from each subgroup) was available.

### Two-Year Colleges; Four-Year Colleges

The Education Trust calculations from the U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Graduation Rate Survey, <http://nces.ed.gov/ipeds/>.

#### Notes:

- Enrollment calculations are based on public, degree-granting institutions only and do not include nonresident aliens.
- High school graduate data from the U.S. Department of Education do not include an "other" category for ethnicity.

### Who graduates from public colleges and universities?

The Education Trust calculations from the U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Graduation Rate Survey, <http://nces.ed.gov/ipeds/>.

#### Notes:

- **Four-year grad rate, 2004** represents the proportion of students who enrolled as first-time, full-time bachelor's degree-seeking freshmen in fall 2000 and received a bachelor's degree from the same institution by the end of the 2003-04 school year.
- **Six-year grad rate, 2006** represents the proportion of students who enrolled as first-time, full-time bachelor's degree-seeking freshmen in fall 2000 and received a bachelor's degree from the same institution by the end of the 2005-06 school year.
- Graduation-rate calculations do not include nonresident aliens.
- Graduation rates are not shown when the cohort size is less than ten students.
- In calculating the college graduation rate for each state, The Education Trust includes only public, four-year degree-granting institutions.
- Top states' six-year grad rate, 2006 represents the median of the graduation rates for each ethnic group in the five states with the highest graduation rates for that ethnic group.

### What proportion of adults has earned a bachelor's degree?

The Education Trust calculations from the U.S. Census Bureau, American FactFinder, 2006 *American Community Survey*, <http://factfinder.census.gov/servlet/DatasetMainPageServlet>.

#### Notes:

- **White** represents "White alone, not Hispanic or Latino." **Asian** represents a sum of "Asian alone" and "Native Hawaiian and Other Pacific Islander alone" numbers. **Other** represents a sum of "Other race alone" and "Two or more races."
- **Overall** represents a sum of all ethnic groups listed above. Because the U.S. Census Bureau does not classify Hispanic or Latino as a racial group, all groups except for "White alone, not Hispanic or Latino" include some members who also may be classified as both that ethnic group and Latino.
- **Top states** is defined as the median of the adult degree attainment rates for each ethnic group in the five states with the highest such rates for that ethnic group.

## Opportunity

### Page 12

#### Access to Qualified Teachers

Data from the U.S. Department of Education, National Center for Education Statistics, 2003-04 Schools and Staffing Survey, <http://nces.ed.gov/surveys/sass/>. Calculations by Richard Ingersoll, "Core Problems: Out-of-Field Teaching Persists in Key Academic Courses and High-Poverty Schools," Washington, D.C.: The Education Trust, 2008.

#### Access to a Rigorous Curriculum

##### Public 11th and 12th Grade Enrollment, 2005-06

U.S. Department of Education, National Center for Education

Statistics, Common Core of Data, Build a Table, <http://nces.ed.gov/ccd/>.

### Advanced Placement Tests

The Education Trust calculations from the College Board AP Summary Reports, 2007, [www.collegeboard.com/student/testing/ap/exgrd\\_sum/2007.html](http://www.collegeboard.com/student/testing/ap/exgrd_sum/2007.html).

#### Notes:

- AP performance data is not shown when suppressed by the College Board or when the proportion of test takers was less than 1 percent.
- Data from the U.S. Department of Education do not include an "other" category for ethnicity.

## Page 13

### K-12 Funding

#### Total federal, state, local spending per pupil, 2005-06

U.S. Department of Education, National Center for Education Statistics, "Revenues and Expenditures for Public Elementary and Secondary Education: School Year 2005-06 (Fiscal Year 2006)" (NCES 2008-328), Table 3, pp. 9-10, <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2008328>.

#### Per pupil state and local funding gaps between districts, 2005-06

The Education Trust analyses are based on U.S. Department of Education and U.S. Census Bureau data for the 2005-06 school year. To calculate the difference in state and local revenues provided to highest poverty and lowest poverty districts, districts are ranked within each state by poverty rate, then divided into four groups with approximately the same number of students. Average state and local revenues per student are calculated and compared between the highest and lowest poverty groups. The same process is used to compare districts with the highest and lowest percentages of minority students.

U.S. Department of Education School and District Enrollment and Cost Adjustment Data, <http://nces.ed.gov/ccd/>. U.S. Census Bureau, Education Finance and School District Poverty Data, [www.census.gov/govs/www/school.html](http://www.census.gov/govs/www/school.html).

#### Notes:

- Dollar figures have been adjusted to reflect geographic cost differences and the additional cost of educating students with disabilities.
- New York State is an exception, as New York City accounts for almost half of the students in the state, so only two groups are in the analysis.
- Alaska's low-poverty quartile contains approximately half the students in the state.
- Nevada is excluded from the analysis because the distribution of students in districts does not allow for a quartile or two-group analysis.
- Hawaii and the District of Columbia are excluded from the analysis because each represents a single school district.
- Louisiana and Mississippi are excluded from the analysis due to changes in school enrollment and funding following Hurricane Katrina.

### College Affordability

National Center for Public Policy and Higher Education, "Measuring Up, 2008: The National Report Card on Higher Education," San Jose, Calif.: 2008, <http://measuringup2008.highereducation.org/index.php>.

**Note:** Data are for the 40 percent of the population with the lowest income.

### Financial Aid Availability

Prepared by Daniela Pineda, Karen Moronski, and Edward P. St. John for the Promoting Equity in Higher Education project funded by the Ford Foundation based at the National Center for Institutional Diversity at the University of Michigan-Ann Arbor.



---

The Education Trust

1250 H Street, N.W., Suite 700 • Washington, D.C. 20005 • [www.edtrust.org](http://www.edtrust.org) • 202/293-1217

**160.345 Definitions -- Required adoption of school councils for school-based decision making -- Composition -- Responsibilities -- Professional development -- Exemption -- Formula for allocation of school district funds -- Intentionally engaging in conduct detrimental to school-based decision making by board member, superintendent, district employee, or school council member -- Complaint procedure -- Disciplinary action -- Rescission of right to establish and powers of council -- Wellness policy.**

- (1) For the purpose of this section:
  - (a) "Minority" means American Indian; Alaskan native; African-American; Hispanic, including persons of Mexican, Puerto Rican, Cuban, and Central or South American origin; Pacific islander; or other ethnic group underrepresented in the school;
  - (b) "School" means an elementary or secondary educational institution that is under the administrative control of a principal and is not a program or part of another school. The term "school" does not include district-operated schools that are:
    1. Exclusively vocational-technical, special education, or preschool programs;
    2. Instructional programs operated in institutions or schools outside of the district; or
    3. Alternative schools designed to provide services to at-risk populations with unique needs;
  - (c) "Teacher" means any person for whom certification is required as a basis of employment in the public schools of the state, with the exception of principals and assistant principals; and
  - (d) "Parent" means:
    1. A parent, stepparent, or foster parent of a student; or
    2. A person who has legal custody of a student pursuant to a court order and with whom the student resides.
- (2) Each local board of education shall adopt a policy for implementing school-based decision making in the district which shall include, but not be limited to, a description of how the district's policies, including those developed pursuant to KRS 160.340, have been amended to allow the professional staff members of a school to be involved in the decision making process as they work to meet educational goals established in KRS 158.645 and 158.6451. The policy may include a requirement that each school council make an annual report at a public meeting of the board describing the school's progress in meeting the educational goals set forth in KRS 158.6451 and district goals established by the board. The policy shall also address and comply with the following:
  - (a) Except as provided in paragraph (b)2. of this subsection, each participating school shall form a school council composed of two (2) parents, three (3) teachers, and the principal or administrator. The membership of the council may be increased, but it may only be increased proportionately. A parent

representative on the council shall not be an employee or a relative of an employee of the school in which that parent serves, nor shall the parent representative be an employee or a relative of an employee in the district administrative offices. A parent representative shall not be a local board member or a board member's spouse. None of the members shall have a conflict of interest pursuant to KRS Chapter 45A, except the salary paid to district employees;

- (b)
  1. The teacher representatives shall be elected for one (1) year terms by a majority of the teachers. A teacher elected to a school council shall not be involuntarily transferred during his or her term of office. The parent representatives shall be elected for one (1) year terms. The parent members shall be elected by the parents of students preregistered to attend the school during the term of office in an election conducted by the parent and teacher organization of the school or, if none exists, the largest organization of parents formed for this purpose. A school council, once elected, may adopt a policy setting different terms of office for parent and teacher members subsequently elected. The principal shall be the chair of the school council.
  2. School councils in schools having eight percent (8%) or more minority students enrolled, as determined by the enrollment on the preceding October 1, shall have at least one (1) minority member. If the council formed under paragraph (a) of this subsection does not have a minority member, the principal, in a timely manner, shall be responsible for carrying out the following:
    - a. Organizing a special election to elect an additional member. The principal shall call for nominations and shall notify the parents of the students of the date, time, and location of the election to elect a minority parent to the council by ballot; and
    - b. Allowing the teachers in the building to select one (1) minority teacher to serve as a teacher member on the council. If there are no minority teachers who are members of the faculty, an additional teacher member shall be elected by a majority of all teachers. Term limitations shall not apply for a minority teacher member who is the only minority on faculty;
- (c)
  1. The school council shall have the responsibility to set school policy consistent with district board policy which shall provide an environment to enhance the students' achievement and help the school meet the goals established by KRS 158.645 and 158.6451. The principal shall be the primary administrator and the instructional leader of the school, and with the assistance of the total school staff shall administer the policies established by the school council and the local board.
  2. If a school council establishes committees, it shall adopt a policy to facilitate the participation of interested persons, including, but not limited to, classified employees and parents. The policy shall include the

number of committees, their jurisdiction, composition, and the process for membership selection;

- (d) The school council and each of its committees shall determine the frequency of and agenda for their meetings. Matters relating to formation of school councils that are not provided for by this section shall be addressed by local board policy;
- (e) The meetings of the school council shall be open to the public and all interested persons may attend. However, the exceptions to open meetings provided in KRS 61.810 shall apply;
- (f) After receiving notification of the funds available for the school from the local board, the school council shall determine, within the parameters of the total available funds, the number of persons to be employed in each job classification at the school. The council may make personnel decisions on vacancies occurring after the school council is formed but shall not have the authority to recommend transfers or dismissals;
- (g) The school council shall determine which textbooks, instructional materials, and student support services shall be provided in the school. Subject to available resources, the local board shall allocate an appropriation to each school that is adequate to meet the school's needs related to instructional materials and school-based student support services, as determined by the school council. The school council shall consult with the school media librarian on the maintenance of the school library media center, including the purchase of instructional materials, information technology, and equipment;
- (h) Personnel decisions at the school level shall be as follows:
  - 1. From a list of applicants submitted by the local superintendent, the principal at the participating school shall select personnel to fill vacancies, after consultation with the school council, consistent with subsection (2)(i)10. of this section. The superintendent may forward to the school council the names of qualified applicants who have pending certification from the Education Professional Standards Board based on recent completion of preparation requirements, out-of-state preparation, or alternative routes to certification pursuant to KRS 161.028 and 161.048. Requests for transfer shall conform to any employer-employee bargained contract which is in effect.
  - 2. If the vacancy to be filled is the position of principal, the school council shall select the new principal from among those persons recommended by the local superintendent, except as provided in subparagraph 4. of this paragraph. The superintendent shall provide additional applicants upon request when qualified applicants are available. The school council shall receive training in recruitment and interviewing techniques prior to carrying out the process of selecting a principal. The council shall select the trainer to deliver the training.

3. Personnel decisions made at the school level under the authority of subparagraphs 1., 2., and 4. of this paragraph shall be binding on the superintendent who completes the hiring process.
  4. If the vacancy for the position of principal occurs in a school that has an index score that places it in the lowest one-third (1/3) of all schools below the assistance line and the school has completed a scholastic audit under KRS 158.6455 that includes findings of lack of effectiveness of the principal and school council, the superintendent shall appoint the principal after consulting with the school council.
  5. Applicants subsequently employed shall provide evidence that they are certified prior to assuming the duties of a position in accordance with KRS 161.020. The superintendent shall provide additional applicants upon request when qualified applicants are available;
- (i) The school council shall adopt a policy to be implemented by the principal in the following additional areas:
1. Determination of curriculum, including needs assessment, curriculum development and responsibilities under KRS 158.6453(7);
  2. Assignment of all instructional and noninstructional staff time;
  3. Assignment of students to classes and programs within the school;
  4. Determination of the schedule of the school day and week, subject to the beginning and ending times of the school day and school calendar year as established by the local board;
  5. Determination of use of school space during the school day;
  6. Planning and resolution of issues regarding instructional practices;
  7. Selection and implementation of discipline and classroom management techniques as a part of a comprehensive school safety plan, including responsibilities of the student, parent, teacher, counselor, and principal;
  8. Selection of extracurricular programs and determination of policies relating to student participation based on academic qualifications and attendance requirements, program evaluation, and supervision;
  9. Procedures, consistent with local school board policy, for determining alignment with state standards, technology utilization, and program appraisal; and
  10. Procedures to assist the council with consultation in the selection of personnel by the principal, including, but not limited to, meetings, timelines, interviews, review of written applications, and review of references. Procedures shall address situations in which members of the council are not available for consultation; and
- (j) Each school council shall annually review data as shown on state and local student assessments and program assessments required under KRS 158.6453. The data shall include but not be limited to information on performance levels of all students tested, and information on the performance of students

disaggregated by race, gender, disability, and participation in the federal free and reduced price lunch program. After completing the review of data, each school council, with the involvement of parents, faculty, and staff, shall develop and adopt a plan to ensure that each student makes progress toward meeting the goals set forth in KRS 158.645 and 158.6451(1)(b) by April 1 of each year and submit the plan to the superintendent and local board of education for review as described in KRS 160.340. The Kentucky Department of Education shall provide each school council the data needed to complete the review required by this paragraph no later than November 1 of each year. If a school does not have a council, the review shall be completed by the principal with the involvement of parents, faculty, and staff.

- (3) The policies adopted by the local board to implement school-based decision making shall also address the following:
  - (a) School budget and administration, including: discretionary funds; activity and other school funds; funds for maintenance, supplies, and equipment; and procedures for authorizing reimbursement for training and other expenses;
  - (b) Assessment of individual student progress, including testing and reporting of student progress to students, parents, the school district, the community, and the state;
  - (c) School improvement plans, including the form and function of strategic planning and its relationship to district planning, as well as the school safety plan and requests for funding from the Center for School Safety under KRS 158.446;
  - (d) Professional development plans developed pursuant to KRS 156.095;
  - (e) Parent, citizen, and community participation including the relationship of the council with other groups;
  - (f) Cooperation and collaboration within the district, with other districts, and with other public and private agencies;
  - (g) Requirements for waiver of district policies;
  - (h) Requirements for record keeping by the school council; and
  - (i) A process for appealing a decision made by a school council.
- (4) In addition to the authority granted to the school council in this section, the local board may grant to the school council any other authority permitted by law. The board shall make available liability insurance coverage for the protection of all members of the school council from liability arising in the course of pursuing their duties as members of the council.
- (5) After July 13, 1990, any school in which two-thirds (2/3) of the faculty vote to implement school-based decision making shall do so. All schools shall implement school-based decision making by July 1, 1996, in accordance with this section and with the policy adopted by the local board pursuant to this section. Upon favorable vote of a majority of the faculty at the school and a majority of at least twenty-five (25) voting parents of students enrolled in the school, a school meeting its goal as determined by the Department of Education pursuant to KRS 158.6455 may apply

to the Kentucky Board of Education for exemption from the requirement to implement school-based decision making, and the state board shall grant the exemption. The voting by the parents on the matter of exemption from implementing school-based decision making shall be in an election conducted by the parent and teacher organization of the school or, if none exists, the largest organization of parents formed for this purpose. Notwithstanding the provisions of this section, a local school district shall not be required to implement school-based decision making if the local school district contains only one (1) school.

- (6) The Department of Education shall provide professional development activities to assist schools in implementing school-based decision making. School council members elected for the first time shall complete a minimum of six (6) clock hours of training in the process of school-based decision making, no later than thirty (30) days after the beginning of the service year for which they are elected to serve. School council members who have served on a school council at least one (1) year shall complete a minimum of three (3) clock hours of training in the process of school-based decision making no later than one hundred twenty (120) days after the beginning of the service year for which they are elected to serve. Experienced members may participate in the training for new members to fulfill their training requirement. School council training required under this subsection shall be conducted by trainers endorsed by the Department of Education. By November 1 of each year, the principal through the local superintendent shall forward to the Department of Education the names and addresses of each council member and verify that the required training has been completed. School council members elected to fill a vacancy shall complete the applicable training within thirty (30) days of their election.
- (7) A school that chooses to have school-based decision making but would like to be exempt from the administrative structure set forth by this section may develop a model for implementing school-based decision making, including but not limited to a description of the membership, organization, duties, and responsibilities of a school council. The school shall submit the model through the local board of education to the commissioner of education and the Kentucky Board of Education, which shall have final authority for approval. The application for approval of the model shall show evidence that it has been developed by representatives of the parents, students, certified personnel, and the administrators of the school and that two-thirds (2/3) of the faculty have agreed to the model.
- (8) The Kentucky Board of Education, upon recommendation of the commissioner of education, shall adopt by administrative regulation a formula by which school district funds shall be allocated to each school council. Included in the school council formula shall be an allocation for professional development that is at least sixty-five percent (65%) of the district's per pupil state allocation for professional development for each student in average daily attendance in the school. The school council shall plan professional development in compliance with requirements specified in KRS 156.095, except as provided in KRS 158.649. School councils of small schools shall be encouraged to work with other school councils to maximize professional development opportunities.

- (9) (a) No board member, superintendent of schools, district employee, or member of a school council shall intentionally engage in a pattern of practice which is detrimental to the successful implementation of or circumvents the intent of school-based decision making to allow the professional staff members of a school and parents to be involved in the decision making process in working toward meeting the educational goals established in KRS 158.645 and 158.6451 or to make decisions in areas of policy assigned to a school council pursuant to paragraph (i) of subsection (2) of this section.
- (b) An affected party who believes a violation of this subsection has occurred may file a written complaint with the Office of Education Accountability. The office shall investigate the complaint and resolve the conflict, if possible, or forward the matter to the Kentucky Board of Education.
- (c) The Kentucky Board of Education shall conduct a hearing in accordance with KRS Chapter 13B for complaints referred by the Office of Education Accountability.
- (d) If the state board determines a violation has occurred, the party shall be subject to reprimand. A second violation of this subsection may be grounds for removing a superintendent, a member of a school council, or school board member from office or grounds for dismissal of an employee for misconduct in office or willful neglect of duty.
- (10) Notwithstanding subsections (1) to (9) of this section, a school's right to establish or maintain a school-based decision making council and the powers, duties, and authority granted to a school council may be rescinded or the school council's role may be advisory if the commissioner of education or the Kentucky Board of Education takes action under KRS 160.346.
- (11) Each school council of a school containing grades K-5 or any combination thereof, or if there is no school council, the principal, shall develop and implement a wellness policy that includes moderate to vigorous physical activity each day and encourages healthy choices among students. The policy may permit physical activity to be considered part of the instructional day, not to exceed thirty (30) minutes per day, or one hundred and fifty (150) minutes per week. Each school council, or if there is no school council, the principal, shall adopt an assessment tool to determine each child's level of physical activity on an annual basis. The council or principal may utilize an existing assessment program. The Kentucky Department of Education shall make available a list of available resources to carry out the provisions of this subsection. The department shall report to the Legislative Research Commission no later than November 1 of each year on how the schools are providing physical activity under this subsection and on the types of physical activity being provided. The policy developed by the school council or principal shall comply with provisions required by federal law, state law, or local board policy.

**Effective:** March 25, 2009

**History:** Amended 2009 Ky. Acts ch. 101, sec. 12, effective March 25, 2009. -- Amended 2008 Ky. Acts ch. 105, sec. 1, effective July 15, 2008. -- Amended 2005

Ky. Acts ch. 84, sec. 6, effective June 20, 2005. -- Amended 2004 Ky. Acts ch. 188, sec. 4, effective July 13, 2004. -- Amended 2003 Ky. Acts ch. 81, sec. 1, effective June 24, 2003. -- Amended 2002 Ky. Acts ch. 152, sec. 1, effective July 15, 2002; and ch. 302, sec. 5, effective July 15, 2002. -- Amended 2000 Ky. Acts ch. 212, sec. 1, effective July 14, 2000; ch. 339, sec. 2, effective July 14, 2000; ch. 418, sec. 1, effective July 14, 2000; and ch. 527, sec. 14, effective July 14, 2000. -- Amended 1998 Ky. Acts ch. 493, sec. 14, effective April 10, 1998; and ch. 609, sec. 3, effective July 15, 1998. -- Amended 1996 Ky. Acts ch. 34, sec. 1, effective July 15, 1996; ch. 74, sec. 1, effective July 15, 1996; ch. 146, sec. 1, effective July 15, 1996; ch. 318, sec. 52, effective July 15, 1996; and ch. 362, secs. 1 and 6, effective July 15, 1996. -- Amended 1994 Ky. Acts ch. 103, sec. 3, effective July 15, 1994; ch. 187, sec. 1, effective July 15, 1994; ch. 247, sec. 1, effective July 15, 1994; ch. 411, sec. 1, effective July 15, 1994; and ch. 484, sec. 1, effective July 15, 1994. -- Amended 1992 Ky. Acts ch. 376, sec. 3, effective July 14, 1992; and ch. 393, sec. 3, July 14, 1992. -- Created 1990 Ky. Acts ch. 476, Pt. I, sec. 14, effective July 13, 1990.

**Legislative Research Commission Note (7/15/96).** This section was amended by 1996 Ky. Acts chs. 34, 74, 146, 318, and 362. Where these Acts are not in conflict, they have been codified together. A conflict exists between Acts chs. 34 and 362. Under KRS 446.250, Acts ch. 362, which was last enacted by the General Assembly, prevails.

**2008-2010 Budget Reference.** See State/Executive Branch Budget, 2008 Ky. Acts ch. 127, Pt. I, D, 3, (7) at 503; and State/Executive Branch Budget Memorandum, 2008 Ky. Acts ch. 188, at 1346 and 1352 (Final Budget Memorandum, Vol. III, at D-21, and D-23).

# KENTUCKY'S

SCIENCE

TECHNOLOGY

ENGINEERING

MATHEMATICS

# IMPERATIVE

COMPETING IN THE  
GLOBAL ECONOMY

## **STEM Task Force Executive Committee**

Lee T. Todd, Jr.  
Task Force Chair

William C. Cloyd, IV  
Vice Chair, K-12 Sector

Darrell L. Ishmael  
Vice Chair, Business Sector

M. Joanne Lang  
Vice Chair, Government Sector

Gerald Pogatshnik  
Vice Chair, Higher Education Sector

John R. Hall

Allyson Hughes Handley

Thomas D. Layzell

John S. Turner

John H. Yopp

## **STEM Task Force Staff**

Jim Applegate  
Dianne Bazell  
Ron Carson  
Allyson Hughes Handley  
Heidi Hiemstra  
Linda Linville  
Melissa McGinley  
Bill Payne  
Pegge Woolums

## **Kentucky Council on Postsecondary Education**

John S. Turner  
Chair

Dan Flanagan  
Vice Chair

Walter A. Baker

Peggy Bertelsman

Kevin Canafax

Ronald Greenberg

John R. Hall

Phyllis Maclin

Alois Moore

Ryan F. Quarles  
Student Representative

Jim D. Skaggs

Joan N. Taylor

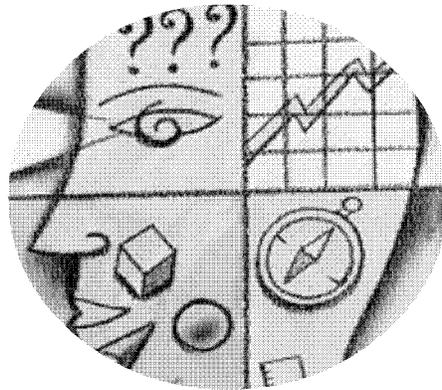
Mark J. Wattier  
Faculty Representative

Kevin N. Noland  
Ex Officio

Thomas D. Layzell  
President

---

# KENTUCKY'S STEM IMPERATIVE



## COMPETING IN THE GLOBAL ECONOMY

---

The Final Report of the  
Council on Postsecondary Education  
STEM Task Force

The CPE STEM Task Force is generously co-sponsored  
by the University of Kentucky

March 2007



Dear Fellow Kentuckians:

We are pleased to share with you the Council on Postsecondary Education's (CPE) Science, Technology, Engineering, and Mathematics (STEM) Task Force Report. At its November 6, 2006, meeting, the CPE charged the STEM Task Force with "developing a statewide P-20 strategic action plan to accelerate Kentucky's performance within the STEM disciplines."

The 110 members of the STEM Task Force are leaders within the government, business, and education sectors from across the Commonwealth. During the past three months, the STEM Task Force reviewed data, heard testimony, and examined a wide variety of national reports that identify the scope and seriousness of the STEM crisis in America.

These discussions have persuaded us that there is a national and state-level crisis in the STEM pipeline that must be addressed immediately. The future of the Commonwealth depends on how we respond and what actions we take to ensure that our citizens are actively engaged in solutions to this unprecedented crisis.

For too long, Kentucky has been content to wait and watch as other states make tough choices that result in progress for them and leftovers for us. Kentucky has the potential to be the state that others follow to remedy the STEM crisis. We believe that collaborative and coordinated strategies to resolve the STEM crisis must engage all sectors and all citizens.

We hope that you will review these recommendations and share your views on how we might proceed to ensure that our children have every opportunity to effectively compete in the increasingly global economy. This task force will continue to meet and discuss Kentucky's challenges and potential solutions because STEM disciplines hold the key to our future economic prosperity, including critical areas such as health care and sustainable energy.

The consequences are dire and far-reaching if we fail to take action. Thoughtful, bold, and timely action regarding the STEM disciplines will position Kentucky to succeed in the global competition for 21<sup>st</sup> century innovation, careers, and economic development. Finally, we invite you to join our collective efforts to secure Kentucky's future through the implementation and funding of these recommendations.



Lee T. Todd, Jr.  
President  
University of Kentucky



Thomas D. Layzell  
President  
Council on Postsecondary Education



John R. Hall  
Retired Chairman & CEO  
Ashland, Inc.



## TABLE OF CONTENTS

Executive Summary .....	7
Introduction .....	9
CPE Task Force Process and Timeline .....	10
Background .....	11
America's Academic Competitiveness .....	12
Kentucky's STEM Performance .....	13
Kentucky's P-12 STEM Performance .....	15
Kentucky's Higher Education STEM Performance .....	15
The Definition of the Problems .....	16
Recommendations.....	22
Conclusion .....	28
Members of the STEM Task Force .....	29
Online Resources .....	32
Biographies of STEM Task Force Members .....	32
Institutional STEM Reports .....	32
Summary of Sector Recommendations .....	32
Bibliography .....	32



**"The United States takes deserved pride in the vitality of its economy, which forms the foundation of our high quality of life, our national security, and our hope that our children and grandchildren will inherit ever-greater opportunities. That vitality is derived in large part from the productivity of well-trained people and the steady stream of scientific and technical innovations they produce. Without high-quality, knowledge-intensive jobs and innovative enterprises that lead to discovery and new technology, our economy will suffer and our people will face a lower standard of living."**

*-Rising Above the Gathering Storm, 2006*

## EXECUTIVE SUMMARY

During the past four months (December 2006 – March 2007), the 110 members of the Council on Postsecondary Education (CPE) Science, Technology, Engineering, and Mathematics (STEM) Task Force have deliberated on the STEM crisis that Kentucky and the nation are currently experiencing. The STEM Task Force was charged by the Council with developing "a statewide P-20 strategic action plan to accelerate Kentucky's performance within the STEM disciplines." Task force members encourage the adoption of the following interrelated recommendations that create a bold and comprehensive plan for change. The approach to STEM education, STEM attainment, and the creation of knowledge economy jobs in the Commonwealth must change.

The CPE STEM Task Force echoes the urgent concerns voiced in almost 20 recent national reports that America's scientific, technological, and innovation capacity and leadership are seriously eroding. Diverse STEM stakeholders agree that fundamental change is necessary among:

"...the entire community of stakeholders: those responsible for budgets, policies, and programs that affect research and education in STEM fields at the national, state, and local level; those responsible for the quality of STEM research in America's educational institutions; those potential employers of STEM graduates; and all citizens in a society in which science and technology have a significant impact on most aspects of our lives."

*-Project Kaleidoscope Report on Reports II, 2006*

## STEM TASK FORCE RECOMMENDATIONS

1. Energize and fund a statewide public awareness campaign to help Kentuckians understand the critical importance of STEM to their own economic competitiveness and to that of the Commonwealth.
2. Create incentives and a supportive environment for students, teachers, and institutions that pursue, succeed, and excel in STEM disciplines throughout the P-20 pipeline.
3. Implement international best practices in professional development programs for P-16 STEM teachers to increase the intensity, duration, and rigor of professional development.
4. Improve teacher preparation programs and encourage people with undergraduate and graduate STEM degrees to enter the teaching profession.
5. Revolutionize how STEM subjects are taught, learned, and assessed and implement a statewide research-based STEM curriculum that is aligned with global workforce and academic standards.
6. Engage business, industry, and civic leaders to improve STEM education and skills in the Commonwealth and create incentives for Kentucky businesses that employ and invest in STEM educated students.
7. Develop an ongoing, coordinated, statewide STEM initiative that maximizes the impact of resources among state agencies, schools, colleges and universities, and businesses and is focused on developing and attracting STEM-related jobs to Kentucky.
8. Target energy sustainability problems and opportunities in Kentucky and the nation as a primary objective of statewide STEM enhancements.

## INTRODUCTION

The creation of the CPE STEM Task Force emerged from the CPE Research, Economic Development, and Commercialization Policy Group, chaired by Mr. John R. Hall, retired chairman and CEO of Ashland, Inc. At its August 2006 retreat, CPE focused its attention on the importance of the STEM disciplines to the development of Kentucky's "talentforce" and the creation of knowledge economy jobs. STEM disciplines provide the foundation for future statewide advancements in commercialization and innovation and support existing businesses and enterprises that rely on mathematics, science, technology, and engineering expertise.

In November 2006, the Council took formal action to approve the convening of a STEM Task Force comprised of leaders from government, business, P-12, and higher education sectors within the Commonwealth of Kentucky.

"The CPE STEM Task Force is charged with developing a statewide strategic action plan to accelerate Kentucky's performance within the STEM disciplines. Recommendations and accountability measures also need to explore the relationship between STEM production and the creation of knowledge economy or "talentforce" jobs, the commercialization of intellectual property, and innovation within Kentucky."

*CPE Meeting Minutes, November 6, 2006*

The long-term, overarching goal of the *Kentucky Postsecondary Education Improvement Act of 1997* is to significantly improve the quality of life and standard of living for all Kentuckians. Question 5 of the CPE Public Agenda for Postsecondary and Adult Education reads: "Are Kentucky's people, communities, and economy benefiting?" In order to improve the economy of Kentucky, we must increase the educational attainment of Kentucky's citizens and prepare Kentuckians for the 21<sup>st</sup> century workplace. The STEM disciplines hold the key to the future prosperity of the Commonwealth.

(b)(6)



**The STEM disciplines hold the key to the future prosperity of the Commonwealth.**

A large red rectangular area covering the left side of the page, with the text "(b)(6)" in the top left corner.

(b)(6)

## CPE STEM TASK FORCE PROCESS AND TIMELINE

The CPE STEM Task Force is comprised of 110 leaders from the executive and legislative branches of state government, P-12 and higher education, and the business, nonprofit, professional, and organizational sectors of the Commonwealth of Kentucky.

- August – October 2006 – John Hall, Chair of the Research, Economic Development, and Commercialization Policy Group, recommended formation of CPE STEM Task Force
- November 2006 – CPE approved establishment of STEM Task Force; UK President Lee Todd appointed as chair
- December 2006 – First meeting of the CPE STEM Task Force
- January 2007 – Second meeting of the CPE STEM Task Force
- February 2007 – Third meeting of the CPE STEM Task Force
- March 2007 – CPE STEM Task Force report and recommendations released
- April – August 2007 – STEM Task Force study groups meet to develop implementation action plans for the STEM Task Force recommendations
- September 2007 – Implementation action plans released
- September – December 2007 – Budget planning processes incorporate STEM Task Force recommendations

"It is easy to be complacent about U.S. competitiveness and preeminence in science and technology. We have led the world for decades, and we continue to do so in many research fields today.

But the world is changing rapidly, and our advantages are no longer unique. Some will argue that this is a problem for market forces to resolve—but that is exactly the concern.

Market forces are already at work moving jobs to countries with less costly, often better educated, highly motivated work forces and more friendly tax policies."

-*Rising Above the Gathering Storm, 2006*

## BACKGROUND

In 1989, the American Association for the Advancement of Science (AAAS) published a report entitled *Science for All Americans* that examined the challenges inherent in educating science literate K-12 students. Experts in science, mathematics, and technology collaborated to define science literacy and provide recommendations on effective science learning and teaching. The report also called for the establishment of national standards for science education and provided resources and recommendations regarding science education reform within K-12 and higher education settings.

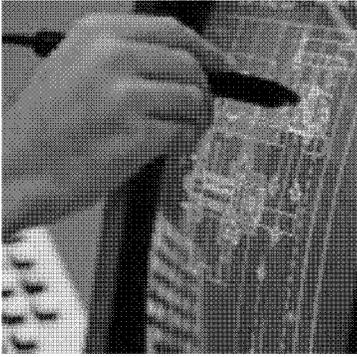
Almost 20 years later, the call for science and technology literacy has been replaced by an increasingly urgent message regarding the national crisis in mathematics and science in the United States. Beginning at the turn of the century with *The Glenn Commission* (September 2000), the economic impact of America's eroding supremacy in the STEM disciplines has been studied and documented.

"We as a nation must take immediate action to improve the quality of math and science teaching in every classroom in the country. If we delay, we put at risk our continued economic growth and future scientific discovery."

-*The Glenn Commission, 2000*

The United States is facing a national STEM crisis reflected in the declining number of American students who receive science degrees. Thirty years ago the United States ranked third worldwide in the number of science graduates; now we rank 17<sup>th</sup>. Additionally, Asian universities produce eight times more engineering bachelor's degrees than the United States. Of the 2.8 million university degrees in science and engineering granted worldwide in 2003, 1.2 million were earned in Asian universities, 830,000 in European institutions, and 40,000 in American universities and colleges.

**Thirty years ago  
the United States  
ranked third  
worldwide in the  
number of  
science graduates;  
now we rank 17<sup>th</sup>.**



**Other states and regions of the United States and other countries are aggressively pursuing attainment within the STEM disciplines.**

Other states and regions of the United States and other countries are aggressively pursuing attainment within the STEM disciplines. A new term, "Chindia," has been coined to describe the regional combined efforts of China and India to advance knowledge economy opportunities through vigorous support for advanced graduate education in the STEM disciplines.

"Neither China nor India has yet produced many important breakthroughs in science or technology. But it is only a matter of time before India and China are at the forefront in technological innovation. They boast the world's greatest numbers of new scientists and engineering graduates, mounting R & D expenditures, and deepening ties with top foreign tech companies and schools."

-Chindia, 2007

American authors such as Thomas Friedman in *The World is Flat* and Richard Florida in *The Flight of the Creative Class* have documented the current and future impact of an increasingly global economy that threatens the socio-economic welfare of American citizens.

"For most of the post-WWII period, the U.S. was in fact unrivaled in its scientific and technological prowess. In the last five to ten years, this once-predominant position has begun to decay, and in some places rapidly. In 1999, the U.S. Council on Competitiveness warned that the U.S. could not rest on its laurels, since "other nations are accelerating their own efforts" as America's "innovation infrastructure" begins to show signs of decay. Since 1999, things have only gotten worse."

-*The Flight of the Creative Class*, 2005

**America's Academic Competitiveness.** On February 8, 2006, President Bush and Congress implemented two new student grant programs for Pell-eligible (grants awarded to undergraduate students based upon high financial need) American students – the *Academic Competitiveness (AC) Grants* and the *Science and Mathematics Access to Retain Talent (SMART) Grants* which were created within the *2005 Higher Education Reconciliation Act*. Designed to encourage students to pursue more rigorous courses in the STEM disciplines and in critical languages, the grants provide additional funding to base Pell awards. As is illustrated by the chart that follows, the larger awards are reserved for students who major in the STEM or critical language areas.

Year	Base Pell	SMART Grant	Total \$ Per Year
Freshman	\$400 to \$4,000	\$750	\$1,150 to \$4,750
Sophomore	\$400 to \$4,000	\$1300	\$1,700 to \$5,300
Junior	\$400 to \$4,000	\$4000	\$4,400 to \$8,000
Senior	\$400 to \$4,000	\$4,000	\$4,400 to \$8,000
Total- 4 yrs.	\$1,600 to \$16,000	\$10,050	\$11,650 to \$26,050

SMART grants are awarded on a “first come – first serve” basis to full-time American students who qualify for Pell awards based upon the completion of the Free Application for Federal Student Aid (FAFSA). States that currently require a more rigorous high school curriculum (four years of mathematics and four years of science to graduate) are better positioned than Kentucky to have students receive the SMART grants. It is important to note that the 2006 adoption by the Kentucky Board of Education of a more rigorous high school curriculum within the Commonwealth is well aligned with national efforts to strengthen the STEM pipeline.

**Kentucky's STEM Performance.** The STEM disciplines are essential to the economic prosperity of Kentucky's citizens and communities. STEM disciplines fuel innovation, per capita income, and the creation of 21<sup>st</sup> century jobs. Yet, Kentucky continues to perform poorly compared with other states, according to the Progressive Policy Institute.

- Kentucky is 47<sup>th</sup> in workforce education.
- Kentucky is 47<sup>th</sup> in the number of scientists and engineers.
- Kentucky is 45<sup>th</sup> in the number of patents issued.
- Kentucky is 42<sup>nd</sup> in the number of high tech jobs.
- Kentucky is 39<sup>th</sup> in industry investment in R & D.
- Kentucky is 33<sup>rd</sup> in the number of fastest growing companies.

Not surprisingly, Kentucky also ranks low in the percentage of STEM economy jobs. Kentucky ranks 41<sup>st</sup> in the U.S. in the number of science and engineering occupations and 44<sup>th</sup> in the number of high tech businesses in the state.

In September 2006, the Kentucky Science and Technology Corporation released a report entitled *Kentucky Per Capita Income Analysis* based upon research completed by SRI International.

**While Kentucky's per capita income has grown steadily over the past three decades, its ranking nationally has remained virtually unchanged.**

Dramatic acceleration of performance within the STEM disciplines is critical to the improvement of Kentucky's per capita income as we strive to compete in the increasingly global economy.

*"While Kentucky's per capita income (PCI) has grown steadily over the past three decades, its ranking nationally has remained virtually unchanged. For example, in 1970, Kentucky ranked 44<sup>th</sup> among all U.S. states in per capita income. Nearly 35 years later, in 2004, Kentucky was still ranked 44<sup>th</sup>. Kentucky's average per capita income (\$27,151) in 2004 was 82.2 percent of the U.S. average (\$33,041).*

*-Kentucky Per Capita Income Analysis  
Final Report, 2006*

Dramatic acceleration of performance within the STEM disciplines is critical to the improvement of Kentucky's per capita income as we strive to compete in the increasingly global economy. The international marketplace includes cheaper labor and less restrictive immigration and taxation laws than the United States. The global economy already is having an impact on the profile of American jobs and professions.

The U.S. Bureau of Labor Statistics provides national indicators of job growth and decline, such as these figures for the ten-year period between 2004 and 2014.

Growth of 27 percent or more:

- computer science
- database administration
- software engineering
- biomedical engineering
- environmental engineering
- healthcare
- medical research
- internet publishing

The following jobs are predicted to decline significantly during the same time period:

- agriculture
- manufacturing
- textile and apparel production

Manufacturing, which represents 260,000 well-paying jobs and 20 percent of the Kentucky gross product, is by a 2:1 margin the largest contributor to the Kentucky economy. While the Kentucky manufacturing sector is losing jobs, those jobs are primarily "low-skill" jobs. They are being replaced by "high-tech" or advanced manufacturing jobs that require workers who, at a minimum, graduate from high school and preferably attend a Kentucky Technical College System (KCTCS) institution and /or a university/ college offering a four-year degree program. Advanced manufacturing jobs, like those created by the presence of Toyota and its supplier network, will require a steady stream of workers educated in STEM disciplines.

In order to adequately prepare Kentuckians to compete for the new and expanding jobs of the 21<sup>st</sup> century, we must enhance the P-20 STEM pipeline.

**Kentucky's P-12 STEM Performance.** According to the National Science Foundation, Kentucky is lagging behind many states on P-12 measures of mathematics and science.

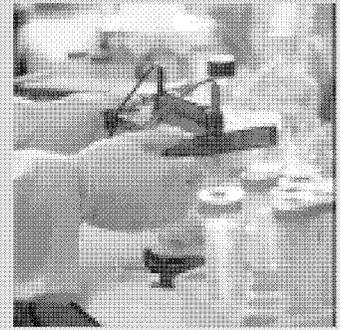
- Fourth grade performance (2005)
  - mathematics: ranked 40<sup>th</sup> in the nation
  - science: ranked 16<sup>th</sup> in the nation
- Eighth grade performance
  - mathematics: ranked 35<sup>th</sup> in the nation
  - science: ranked 18<sup>th</sup> in the nation
- Public high school students taking AP exams
  - U.S. Average: 20.9%
  - Kentucky: 15.5% (Ranked 29<sup>th</sup> in the nation)
- Percentage of students who scored 3 or higher on at least one AP exam
  - U.S. Average: 13.2%
  - Kentucky: 7.7% (ranked 38<sup>th</sup> in the nation)

The Kentucky pipeline in the STEM disciplines is leaking. In fall 2004, 16,003 Kentucky high school graduates entered Kentucky's public colleges and universities underprepared in mathematics. Statistically, unless these students receive developmental assistance during their first year, more than half of them will not return for their second year. By contrast, about 80 percent of mathematically prepared students return for a second year of college.

**Kentucky's Higher Education STEM Performance.** Kentucky continues to rank very low in national comparisons of the number of STEM degrees awarded, according to the National Science Foundation.

- Bachelor's degrees conferred in science and engineering (2003)
  - U.S. average: 7.82 per 1,000
  - Kentucky: 4.75 per 1,000 (ranked 49<sup>th</sup> in the nation)
- Science and engineering degrees as share of degrees conferred (2003)
  - U.S. Average: 29.7%
  - Kentucky: 22.7% (ranked 48<sup>th</sup> in the nation)

Analysis of the actual number of STEM degrees awarded by Kentucky's public and independent universities underscores the crisis even more clearly. During the eight years between 1997/98 and 2004/05, only 923 additional STEM degrees (baccalaureate, master's, and doctoral degrees combined) were awarded by Kentucky's eight public and 19 independent institutions.



## THE DEFINITION OF THE PROBLEMS

***Problem Statement 1:* Kentucky currently is producing inadequate numbers of STEM literate students throughout the P-20 pipeline. Kentucky needs to strengthen the STEM pipeline from kindergarten through doctoral level preparation.**

"In 2000, nearly 40 percent of U.S. high school students had not taken any course work in science more challenging than general biology."

-*Math and Science Education in a Global Age: What the U.S. Can Learn From China, 2006*

The number of students graduating from STEM programs at American universities has remained largely flat during the past 20 years. The demand for science and engineering workers has quadrupled in the U.S. during the same time period.

National Science Foundation data indicate that Kentucky elementary students rank 40<sup>th</sup> in fourth grade mathematics performance and that eighth grade students rank 35<sup>th</sup> compared to other states.

According to the Council's recent Developmental Education Task Force Report, "the proportion of undergraduates underprepared in mathematics who received developmental education services ranged by institution from 64 percent to 96 percent." (*A Plan for Improving College Readiness and Success, page 10*)

Kentucky is producing inadequate numbers of middle and high school teachers within the STEM disciplines. The need for adequately prepared P-12 STEM teachers has increased with the recent adoption of more rigorous standards for students completing high school, including four years of mathematics and four years of science. Rural schools and schools with high percentages of students from low socioeconomic backgrounds face additional challenges in hiring highly qualified STEM teachers.

At the postsecondary level, Kentucky needs to produce greater numbers of highly educated students with doctoral degrees. According to the National Science Foundation (NSF), in 2005, Kentucky ranked 28<sup>th</sup> in the number of doctoral degrees awarded (462 in all disciplines) compared with #1 ranked California that produced 5,225 doctorates across all academic disciplines. NSF data for STEM doctorates conferred indicate that, in 1997, 214 doctoral degrees were awarded in science and engineering by Kentucky institutions compared with 185 doctoral degrees awarded in the same areas in 2003.

The need for adequately prepared P-12 STEM teachers has increased with the recent adoption of more rigorous standards for students completing high school, including four years of mathematics and four years of science.

***Problem Statement 2:* Kentucky's P-8 teachers face unique challenges in acquiring and maintaining expertise in mathematics and science. Teacher preparation programs as well as professional development opportunities for STEM teachers need to be strengthened dramatically.**

STEM-related fields are dynamic. They evolve rapidly as new discoveries are made and as research challenges established assumptions. Professional opinions differ regarding the efficacy of teacher preparation models that range from four-year education degrees to programs that require a teacher to have a degree in a content discipline before taking a fifth year dedicated to educational pedagogy and practice. Different higher education institutions have different requirements for elementary education certification, especially in mathematics. This varies from one course in mathematics education (methods) to three higher level mathematics content courses.

However, in the areas of mathematics and science, it is imperative that teachers possess in-depth understanding and currency in the relevant content area. Teacher preparation programs and degree programs in the STEM disciplines need to be strengthened at our colleges and universities to ensure that P-12 students receive appropriate rigor and content to meet 21<sup>st</sup> century education and workplace expectations. In addition, there is a critical shortage of university mathematics educators to prepare teachers, especially at the elementary and middle grade levels.

Beginning in the fourth and fifth grades, students are introduced to increasingly complex mathematical and scientific material that requires educators to have mastered STEM-related content. In addition, a classroom teacher's enthusiasm for mathematics and science has been found to influence a child's interest in these areas. Teachers must have ready access to quality, ongoing professional development in order to stay current in their fields and to teach at the highest levels.

"Far higher proportions of science and math teachers in East Asia have degrees in their disciplines than their U.S. counterparts. Fewer than 60 percent of U.S. eighth grade science teachers have majors in a science discipline and only 48 percent of eighth grade math teachers have a math major. Chinese schools do not expect a single elementary school teacher to teach all subjects; specialist science teachers are employed as early as third grade. A tradition of mentoring by master teachers and weekly professional development in schools continually improves teacher performance."

*-Math and Science Education in a Global Age:  
What the U.S. Can Learn from China, 2006*

(b)(6)



Despite some notable progress in P-20 curricular alignment, much work remains to be done to better align high school programs and college expectations.

***Problem Statement 3:*** Collaboration among STEM professionals within P-20 education is not currently sufficient to produce widespread improvement in Kentucky's STEM performance. Improved collaboration between P-12 and higher education is critical to the creation of an adequate STEM pipeline within Kentucky.

Despite some notable progress in P-20 curricular alignment, much work remains to be done to better align high school programs and college expectations. Several local and national collaborative projects between P-12 and higher education demonstrate encouraging progress and can serve as models of "best practice."

The Appalachian Mathematics and Science Partnership (AMSP) Model for Institutional Collaboration with School Districts is a National Science Foundation model program currently housed at the University of Kentucky and involves six other Kentucky colleges and universities. The principal goal of the AMSP is to reform the nation's mathematics and science education system through the establishment of effective collaborations between school districts and institutions of higher education. One of the most effective AMSP programs is the Partnership Enhancement Project (PEP), a mini-grant (\$30,000) program that enables direct and specific collaboration between school districts and postsecondary institutions. Preliminary research findings support the value of individualized interventions that reflect the unique perceived needs of the respective school districts. AMSP is particularly focused on the social impact of improved educational attainment to advance knowledge-based workforce development within Appalachia.

At the national level, the Meyerhoff Scholarship program at the University of Maryland, Baltimore County, is dedicated specifically to improving the pipeline of minority students who pursue graduate degrees in the STEM disciplines. The program targets high-achieving minority high school students who must be nominated by their high school administrators, counselors, or teachers. Meyerhoff Scholars receive full tuition, room, and board scholarships, have regular academic and career mentoring, attend an intensive Summer Bridge program, and conduct research early in their postsecondary careers. In addition, family involvement is stressed and required. The Meyerhoff Scholarship program develops strong ties with the secondary schools in Maryland and participates actively in the redesign of science teaching in high schools and at the undergraduate level.

High schools in Kentucky also are implementing the national Project Lead the Way (PLTW) pre-engineering curriculum to prepare students for advanced education and careers in engineering and engineering technology. Academic assessment results from the Kentucky PLTW schools demonstrate students' enhanced mathematics and science achievement compared to students who are not taking the program.

***Problem Statement 4:* Salaries for P-12 STEM teachers are not sufficiently competitive to attract STEM graduates to the teaching profession. A variety of incentives for P-12 STEM teachers need to be explored to encourage STEM degree holders to enter the teaching profession.**

"When the salaries of college graduates are compared, education majors in the U.S. come out at the very bottom. Despite recent increases in teacher salaries the gap between teachers and other college graduates has remained large. University graduates who majored in physical science earned 78 percent more and economics majors earned 92 percent more than education majors over the course of their working lifetime. Majors in social sciences other than economics earned 27 percent more than education majors and humanities majors earned 5 percent more. Relative to those with graduate degrees in education, those with MBAs earned 65 percent more, those with law degrees earned 104 percent more, and those with advanced degrees in physical science earned 75 percent more."

-*Secondary Education in the United States:  
What Can Others Learn From Our Mistakes?*

On March 7, 2007, Bill Gates, chairman of Microsoft, testified before the U.S. Senate committee hearing on strengthening American competitiveness.

"Our goal should be to double the number of science, technology, engineering, and mathematics graduates in the United States by 2015. This will require both funding and innovative ideas. We must renew and reinvigorate math and science curricula with engaging, relevant content. For high schools, we should aim to recruit 10,000 new teachers and strengthen the skills of existing teachers. To expand enrollment in postsecondary math and science programs, each year we should provide 25,000 new undergraduate scholarships and 5,000 new graduate fellowships. America's young people must come to see science and math degrees as key to opportunity. If we fail at this, we won't be able to compete in the global economy. Even as we need to improve our schools and universities, we cannot lose sight of the need to upgrade the skills of people already in the workforce."

-*Testimony of Bill Gates at U.S. Senate, March 7, 2007*

(b)(6)

America's young people must come to see science and math degrees as key to opportunity.

(b)(6)

**Problem Statement 5:** Kentucky's economy as reflected by comparative per capita income (PCI) rankings has not significantly changed in the past 35 years while many of our surrounding competitor states have increased their relative rankings. Kentucky needs to consider strategies and policies that could rapidly accelerate the state's economic development as reflected by PCI.

Various national studies and reports have established the link between the STEM disciplines and economic prosperity.

"The committee identified two key challenges that are tightly coupled to scientific and engineering prowess: creating high quality jobs for Americans and responding to the nation's need for clean, affordable and reliable energy."

-*Project Kaleidoscope Report on Reports, 2006*

On an international level, perhaps the tiny country of Ireland best represents the dramatic positive changes that can result from an aggressive and strategic approach to improved economic prosperity.

"Today, we see in the example of Ireland how quickly a determined nation can rise from relative hunger to burgeoning prosperity. In the 1980's, Ireland's unemployment rate was 18 percent and during that decade 1 percent of the population – mostly young people – left the country, largely to find jobs. In response, a coalition of government, academic institutions, labor unions, farmers, and others forged an ambitious and sometimes painful plan of tax and spending cuts, and aggressively courted foreign investors and skilled scientists and engineers. Today, Ireland is, on a per capita basis, one of Europe's wealthiest countries. In 1990, Ireland's per capita GDP of \$12,891 (in current U.S. dollars) ranked it 23<sup>rd</sup> of the 30 member countries of the Organisation for Economic Co-operation and Development (OCED). By 2002, Ireland's per capita GDP had grown to \$32,646, making it 4<sup>th</sup> highest among OECD member countries."

-*Rising Above the Gathering Storm, 2006*

The Kentucky Science and Technology Corporation's PCI study concluded that

"...despite Kentucky's 20-year average rate of PCI growth that is slightly higher than the national average, it is projected to take 154 years for Kentucky's PCI to converge with the U.S. average PCI – assuming national trends stay the same and with no major changes in Kentucky's economic landscape."

-*Kentucky Per Capita Income Analysis, 2006*

***Problem Statement # 6: The United States needs to create sustainable energy sources to eliminate our dependence on foreign energy resources. Kentucky's history, natural resources, and expertise and innovative research within the energy sector represents an opportunity for the Commonwealth to provide leadership in solving a serious national problem.***

"Kentucky's natural resources and America's need for energy independence create the opportunity for us to be an international leader in energy diversification. We can lead the development of businesses and jobs that provide alternatives to imported oil. America has a problem and Kentucky can provide the solution. Energy independence is good for national security and for Kentucky's economy."

*-Lee T. Todd, Jr., Lexington Herald-Leader Editorial,  
March 5, 2007*

As one important facet of Kentucky's knowledge-based economic development strategy, innovative renewable energy research and commercialization holds great promise. Kentucky's universities are already engaged in collaborative energy research, commercialization ventures are emerging, and the existing energy sector provides current and future STEM-related employment.

As one important facet of Kentucky's knowledge-based economic development strategy, innovative renewable energy research and commercialization holds great promise.

(b)(6)

## RECOMMENDATIONS

1. **Energize and fund a statewide public awareness campaign to help Kentuckians understand the critical importance of STEM to their own economic competitiveness and to that of the Commonwealth.**

Potential strategies include:

- Build public ownership of the problem and its solutions, especially among educators, parents, and community leaders.
- Publicize Kentucky's need to cultivate our STEM intellectual capital to create a 21<sup>st</sup> century "talentforce" and grow knowledge economy jobs within the Commonwealth.
- Increase student awareness of STEM career possibilities, particularly those within the Kentucky energy sector, through the development of future sustainable energy solutions.
- Encourage students to excel in STEM classes and pursue careers in STEM fields. For example, summer workshops, K-12 involvement with college/university level research, and interactions with scientists, engineers and researchers could be utilized to motivate students in the STEM pipeline.
- Engage P-8 parents to ensure their understanding of the importance of STEM achievement to their children's academic career and success.

2. **Create incentives and a supportive environment for students, teachers and institutions that pursue, succeed, and excel in STEM disciplines throughout the P-20 pipeline.**

Potential strategies include:

- Investigate differential investment for STEM subjects, including but not limited to differential compensation, technology infrastructure, laboratory equipment, discretionary funding, supplies, field trips, professional travel allowances, and mathematics and science coaches and mentors.
- Provide or expand instructional laboratory space and opportunities for hands-on experiments in every school, college, and university.
- Increase opportunities for students to gain exposure to STEM careers through the Individual Learning Plans (ILPs) process, Gifted Student Services Plans (GSSPs), mathematics and science competitions and clubs,

internships, research assistantships, and other practical experiences outside the classroom.

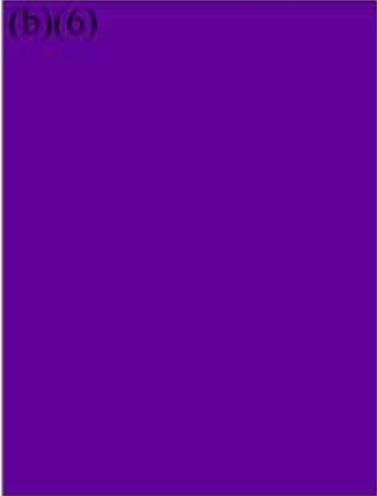
- Create new college scholarships for STEM majors, including pre-service elementary as well as middle grades and secondary teachers with a minor or area of concentration in mathematics or science.
- Maximize existing opportunities (e.g., financial rewards for STEM course taking and achievement, federal SMART grants) for students in the STEM pipeline.
- Reduce student disincentives to take rigorous STEM courses through such strategies as revising Kentucky Educational Excellence Scholarships and Governor's Scholarships.
- Work with middle and high school guidance counselors to encourage students to pursue STEM subjects and STEM-related careers.
- Collaborate with the Kentucky Community and Technical College System (KCTCS) to encourage STEM certificate students to pursue STEM degrees.

**3. Implement international best practices in professional development programs for P-16 STEM teachers to increase the intensity, duration, and rigor of professional development.**

Potential strategies include:

- Expand professional development resources statewide, such as additional days of paid professional development in the school year.
- Provide teachers and faculty with job-embedded mentoring and support and opportunities for practical application of knowledge outside the classroom, including exchange programs with business, industry, and higher education.
- Ensure access to content-specific professional development for STEM subjects regionally and at the state level.
- Provide opportunities and incentives to enable K-12 educators to remain current in the STEM disciplines.
- Consider the addition of a certification or endorsement for P-12 coaches, mentors, or other teacher leaders in mathematics and science.
- Base all professional development activities on research and proven best practice.

(b)(6)



(b)(6)

**4. Improve teacher preparation programs and encourage people with undergraduate and graduate STEM degrees to enter the teaching profession.**

Potential strategies include:

- Reward postsecondary STEM faculty for involvement in K-12 classrooms.
- Encourage, support, and reward the development of college and university mathematics education and science education faculty.
- Raise educator standards and credentialing requirements to ensure adequate STEM knowledge across the elementary, middle, and secondary panels.
- Require education majors in STEM disciplines to take more coursework in their content area, including mathematics and science education, and ensure that these courses are offered by all teacher preparation programs, including those in elementary education.
- Create more flexible alternate routes to teacher certification for STEM professionals in the private sector and remove barriers to second careers in teaching.
- Require and encourage universities to provide more career-friendly programs for teacher preparation and advancement, including evening and weekend classes that are geographically or electronically accessible throughout the state.
- Extend the Kentucky Higher Education Assistance Authority Best in Class loan forgiveness program to elementary teachers with a minor or area of concentration in mathematics or science. (See [http://www.studentloanpeople.com/what\\_best\\_in\\_class.html](http://www.studentloanpeople.com/what_best_in_class.html).)

**5. Revolutionize how STEM subjects are taught, learned, and assessed and implement a statewide research-based STEM curriculum that is aligned with global workforce and academic standards.**

Potential strategies include:

- Integrate a comprehensive, standardized, internationally benchmarked P-16 STEM curriculum to make use of the latest instructional techniques and technologies such as the GE STEM curriculum implemented in Jefferson County.
- Emphasize depth of learning as well as breadth of learning in STEM subjects.

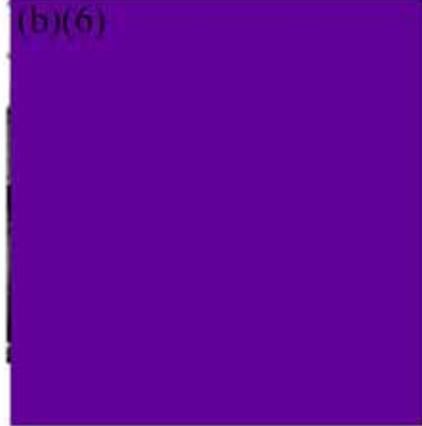
- Encourage universities to partner with industry to provide professional science master's degrees tied to industry needs.
- Upgrade assessment strategies for student learning in the STEM disciplines, such as standardized end-of-course exams and full use of the ACT Educational Planning and Assessment System (EPAS).
- Create curricular, research, and innovation opportunities in sustainable energy for STEM students throughout the pipeline.
- Improve the quality of teaching in STEM disciplines at colleges and universities, including support for the development of mathematics education and science education faculty.
- Incorporate innovative and interactive technology-based STEM learning tools and methodologies throughout P-20 education.
- Establish a statewide STEM competition at the elementary, middle, and high school levels to recognize and celebrate accomplishment in STEM learning and application.

**6. Engage business, industry, and civic leaders to improve STEM education and skills in the Commonwealth and create incentives for Kentucky businesses that employ and invest in STEM educated students.**

Potential strategies include:

- Develop vertical teams such as expanded P-16 Councils to facilitate the local collaboration of P-16 educators, businesses, and government and to facilitate collaborative learning such as Advanced Placement and International Baccalaureate programs, the Academy of Mathematics and Science in Kentucky, and informal educational opportunities.
- Create opportunities for STEM educators and students to apply classroom knowledge to real-world applications in the workplace.
- Create opportunities for P-16 students to participate in STEM clubs and competitions such as science fairs, robotics competitions, American Math Competitions, and Math Counts.
- Contribute leadership expertise and support for the STEM public awareness campaign.
- Expand and improve STEM workforce development and training programs so they teach the skills needed in today's knowledge economy, especially at the Area Technology Centers.

(b)(6)



(b)(6)

- Provide leadership in developing a statewide strategy for energy sustainability and independence.
- Increase corporate grant and in-kind funding of STEM education and expand the reach of programs statewide.
- Explore incentive programs for businesses that commit to hiring STEM graduates from Kentucky institutions and invest in Kentucky STEM research and education.
- Explore corporate education partnerships that enable co-teaching of STEM courses, internships for teachers, professional development for teachers by corporate practitioners of STEM, and possible technology assistance and technology donations.

**7. Develop an ongoing, coordinated statewide STEM initiative that maximizes the impact of resources among state agencies, schools, colleges and universities and businesses and is focused on developing and attracting STEM-related jobs to Kentucky.**

Potential strategies include:

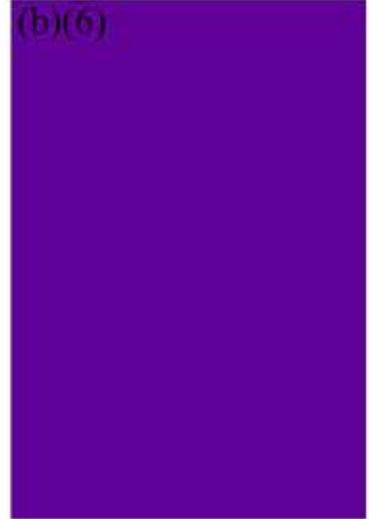
- Propose a concurrent or simple resolution calling for continued study of the state's STEM crisis to result in enabling legislation and potential funding recommendations for the 2008 legislative session.
- Create a standing body of education, business, economic development, government, and nonprofit professionals to oversee and coordinate STEM initiatives at the statewide level.
- Coordinate initiatives with the Kentucky Center for Mathematics (see <http://www.kymath.org>) and the Committee for Mathematics Achievement.
- Create a designated STEM leadership position within state government to ensure sustained progress and statewide collaboration for STEM-related initiatives.
- Advocate and raise funds for STEM education resources from government and the private sector.
- Develop a report card that uses rigorous program assessment to measure Kentucky's progress in implementing STEM initiatives.
- Collect and disseminate global best practices focused on STEM instruction.
- Provide incentives for faculty and students to help catalyze STEM company formation or growth in the Commonwealth according to the "Statewide Strategy for Economic Development."

**8. Target energy sustainability problems and opportunities in Kentucky and the nation as a primary objective of statewide STEM enhancements.**

Potential strategies include:

- Explore the development of P-12 curricular offerings related to energy sustainability.
- Increase funded research for sustainable energy-related innovation and commercialization.
- Create a monetary prize to be awarded to Kentucky innovators who solve important energy sustainability problems similar to the X Prize for scientific innovations that benefit society.

(b)(6)



**The Commonwealth's future prosperity and ability to compete in a global economy depend on a statewide pipeline of STEM educated workers in combination with the creation of 21<sup>st</sup> century "talentforce" jobs.**

## CONCLUSION

The CPE STEM Task Force report outlines the national crisis that America is facing with respect to the STEM pipeline. Education is the primary driver of economic development in Kentucky. The Commonwealth's future prosperity and ability to compete in a global economy depend on a statewide pipeline of STEM educated workers in combination with the creation of 21<sup>st</sup> century "talentforce" jobs.

The CPE STEM Task Force recommendations are designed to create a starting point for future action that involves leveraging current human and fiscal assets and developing new opportunities for Kentucky's citizens. The STEM Task Force invites your comment and your participation in securing Kentucky's future.

## MEMBERS OF THE STEM TASK FORCE

Biographical information for task force members is available on the Council Web site at [http://cpe.ky.gov/news/reports/cpe\\_reports/stem](http://cpe.ky.gov/news/reports/cpe_reports/stem).

<b><u>Name</u></b>	<b><u>Affiliation</u></b>	<b><u>City</u></b>
Robert Addington	Appalachian Fuels, Inc.	Ashland
Dave Adkisson	Kentucky Chamber of Commerce	Frankfort
Rich Alloo	Toyota Engineering and Manufacturing North America, Inc.	Erlanger
Jim Applegate	Council on Postsecondary Education	Frankfort
Dan Ash	Jefferson Community and Technical College	Louisville
Ann Bartosh	Kentucky Department of Education	Frankfort
Gail Becker	Louisville Science Center	Louisville
Gary Bello	Atera Partners LLC	Lexington
Jamie Bewley Byrd	Kentucky Transportation Cabinet	Frankfort
Fariba Bigdeli-Jahed	Kentucky State University	Frankfort
George Binder	Kentucky Society of Professional Engineers	Frankfort
Keith Bird	Kentucky Community and Technical College System	Versailles
Mary Ann Blankenship	Kentucky Education Association	Frankfort
Bill Bush	University of Louisville	Louisville
Haridas Chandran	Belfrey High School	Belfrey
Deborah Clayton	Department of Commercialization and Innovation	Frankfort
Bill Cloyd	Newton's Attic, Inc.	Lexington
Joan Coleman	BellSouth Telecommunications, Inc.	Louisville
Edward de Rosset	Union College	Barbourville
Vince DiNoto	Jefferson Community and Technical College	Louisville
Dale Elifrits	Northern Kentucky University	Highland Heights
Bonnie Embry	Kentucky Science Teachers Association	Lexington
Blaine Ferrell	Western Kentucky University	Bowling Green
Greg Figgs	Fayette County Public Schools	Lexington
Linda France	Kentucky Department of Education	Frankfort
Scot Gill	Tates Creek High School	Lexington
Diana J. Glenn	East Hardin Middle School	Elizabethtown
Ron Greenberg	Jewish Hospital & St. Mary's Healthcare	Louisville
Ivory Griskell	Kentucky State University	Frankfort
Cathy Gunn	Morehead State University	Morehead
John Hall	Former Chair and CEO, Ashland, Inc.	Lexington
Sally Hamilton	Kentucky Education Cabinet	Frankfort
Allyson Handley	Council on Postsecondary Education	Frankfort
Elaine Harrison	Kentucky Department of Education	Frankfort
Blake Haselton	Kentucky Association of School Superintendents	LaGrange
Steve Henderson	Kentucky Science & Technology Corporation	Lexington
Jeff Hoover	Kentucky House of Representatives	Jamestown

<b>Name</b>	<b>Affiliation</b>	<b>City</b>
Jim Host	Host Communications	Lexington
Darrell Ishmael	East Kentucky Power Cooperative	Winchester
Brenda C. Jackson	Kentucky School Boards Association	Shelbyville
Diane Johnson	Lewis County Schools	Vanceburg
Michael Karpf	University of Kentucky	Lexington
Dan Kelly	Kentucky Senate	Springfield
Rodney Kelly	Kentucky Department of Education	Frankfort
Elizabeth Kennan	Former President, Mount Holyoke College	Danville
Robert W. Kingsolver	Bellarmino University	Louisville
William J. Kovacic	U.S. Department of the Interior	Lexington
Joanne Lang	Kentucky Science and Technology Corporation	Lexington
Sarah Laws	Midway College	Midway
Tom Layzell	Council on Postsecondary Education	Frankfort
Brian LeClaire	Humana, Inc.	Louisville
Tom Lester	University of Kentucky	Lexington
Benny Lile	Barren County Board of Education	Glasgow
G.T. Lineberry	University of Kentucky	Lexington
Fran Lockwood	Valvoline Corporation	Lexington
Sylvia Lovely	Kentucky League of Cities	Lexington
Amy Lowen	Louisville Science Center	Louisville
Phyllis Maclin	Council on Postsecondary Education	Paducah
David Magrane	Morehead State University	Morehead
Delanor Manson	Kentucky Cabinet for Health and Family Services	Louisville
Tom Martin	Business Lexington	Lexington
Andy Meko	Kentucky Association of Manufacturers	Louisville
Billy Joe Miles	Miles Farm Supply, Inc.	Owensboro
Lindsey Miller	GE College Bound Program	Louisville
Deb Moessner	Anthem Blue Cross Blue Shield of Kentucky	Louisville
Cissy Musselman	Risk Management Services Corporation	Louisville
Jan Muto	Kentucky Community and Technical College System	Versailles
Gerald Neal	Kentucky Senate	Louisville
Laura Owens	Kentucky Education Cabinet	Frankfort
Steve Penrod	United States Enrichment Corporation	Paducah
Bill Phillips	Eastern Kentucky University	Richmond
Jennifer Wells Phipps	Corbin Middle School	Corbin
William M. Pierce	University of Louisville	Louisville
Jerry Pogatshnik	Eastern Kentucky University	Richmond
Larry Prichard	NSB Commission	Grayson
Tanya Pullin	Kentucky House of Representatives	South Shore
Bob Quick	Commerce Lexington, Inc.	Lexington
Joe Reagan	Greater Louisville, Inc.	Louisville
Eddy Roberts	BellSouth Telecommunications, Inc.	Louisville
Julia Roberts	Western Kentucky University	Bowling Green
Melanie Roberts	Bullitt County Judge Executive	Shepherdsville
Phillip S. Rogers	Education Professional Standards Board	Frankfort

<b>Name</b>	<b>Affiliation</b>	<b>City</b>
Wimberly Royster	University of Kentucky	Lexington
Owens Saylor	Jessamine County Schools	Nicholasville
Phillip Schmidt	Northern Kentucky University	Highland Heights
Kathy Schroerlucke	Kentucky DataSeam Initiative	Louisville
Robert Sexton	Prichard Committee for Academic Excellence	Lexington
Linda Sheffield	Kentucky Center for Mathematics	Fort Thomas
Stu Silberman	Fayette County Public Schools	Lexington
Charley Simpson	The Center for Rural Development	Somerset
Lydia Wells Sledge	Retired Director, Instructional Technology	Frankfort
Scott Smith	University of Kentucky	Lexington
Suzanne Soled	Northern Kentucky University	Highland Heights
Ben Streepey	Lexmark International, Inc.	Lexington
Lee Todd	University of Kentucky	Lexington
Billie Travis	Royal Spring Middle School, Scott County	Georgetown
Darrell Treece	Adair County Schools	Columbia
John Turner	Angell Demmell North America	Lebanon
Barbara Veazey	West Kentucky Community and Technical College	Paducah
Caryn Walker	J. Graham Brown School	Louisville
Neil Weber	Murray State University	Murray
Susan Weiss	Net Tango	Louisville
Tom Welch	T Welch Consulting, Inc.	Lexington
Connie White	White, Scott, Jonah and Associates	Frankfort
LaJuana Wilcher	English, Lucas, Priest, and Owsley, LLP	Bowling Green
Mickey Wilhelm	University of Louisville	Louisville
Bill Wilson	Kentucky Educational Television	Lexington
Frank Wiseman	Georgetown College	Georgetown
John Yopp	University of Kentucky	Lexington
James Zanewicz	University of Louisville	Louisville

## ONLINE RESOURCES

The following report resources are available on the Council Web site at [http://cpe.ky.gov/news/reports/cpe\\_reports/stem](http://cpe.ky.gov/news/reports/cpe_reports/stem):

- Biographies of STEM Task Force Members
- Institutional STEM Reports
- Summaries of Sector Recommendations
- Full STEM Task Force Report

## BIBLIOGRAPHY

2005 Survey of Earned Doctorates. <http://www.nsf.gov/statistics/srvydoctorates/>.

About NASSMC. <http://www.nassmc.org/about.html>.

ACT. *Crisis at the Core – Preparing All Students for College and Work*. 2004. <http://www.act.org>.

*Appalachian Math Science Partnership Proposal, The*. 2003. <http://www.appalmsp.org/AMSPproposal.html>.

Asia Society. *Math and Science Education in a Global Age: What the U.S. Can Learn from China*. Asia Society, New York, 2006. <http://www.asiasociety.org>.

Bishop, John H., et. al., *Secondary Education in the United States: What Can Others Learn from Our Mistakes?* <http://www.ilr.cornell.edu/depts/cahrs/WPapers.html>.

Business Roundtable. *Tapping America's Potential The Education for Innovation Initiative*. Washington, D.C., 2005. <http://www.businessroundtable.org>.

Coble, Charles R., et. al., *Turning the Tide: Strategies for Producing the Mathematics and Science Teachers Our Schools Need*. The National Association of System Heads, Washington, D.C., 2006. <http://www2.edtrust.org/NR/rdonlyres/7DCD6A7C-980C-4EA7-BE99-80D0EA3734AF/0/TurningTheTide.pdf>.

Colvin, Geoffrey. *Can Americans Compete?* <http://www.fortune.com/fortune/articles/0,15114,1081269-1,00.html>.

Duschl, Richard A., et al. (eds.). *Taking Science to School: Learning and Teaching Science in Grades K-8*. National Academy of Science, Washington, D.C., 2007.

Engardio, Pete (ed.), *Chindia: How China and India are Revolutionizing Global Business*. McGraw Hill, New York, 2007.

Ehrlich, Everett, *Why America Must Innovate: A Call to Action*. National Governors Association, Washington, D.C., 2006.

Florida, Richard. *The Flight of the Creative Class: The New Global Competition for Talent*. Harper Collins, New York, 2005.

- Gates, Bill (Chairman, Microsoft Corporation), Bill Gates: U.S. Senate Committee Hearing on Strengthening American Competitiveness. Transcript of Oral Testimony before the United States Senate Committee on Health, Education, Labor, and Pensions "Strengthening American Competitiveness for the 21<sup>st</sup> Century." Washington, D.C., March 7, 2007. <http://www.microsoft.com/Presspass/exec/billg/speeches/2007/03-07Senate.msp>.
- Get to Work on Economy.* The Lexington Herald-Leader, January 4, 2007.
- Georgia PRISM. *PRISM Background.* <http://www.gaprism.org/press/presskit/background.phtml>.
- Georgia PRISM (Partnership for Reform in Science & Mathematics). *Fact Sheet.* <http://www.gaprism.org/press/kit.phtml/>.
- Glenn Commission, 2000, The. <http://www.ed.gov/PressReleases/09-2000/0927.html>.
- Grady, Barbara. *State Losing Its Innovative Edge.* Contra Costa Times, November 26, 2006. <http://www.contracostatimes.com>.
- Information for Students on Academic Competitiveness and National SMART Grants.* <http://www.ed.gov/print/about/inits/ed/competitiveness/ac-smart2.html>.
- Information Technology Industry Council. *Fact Sheet - Promoting Math and Science Education: Keeping America Competitive.* <http://www.itic.org>.
- Incentives Can Cure Math, Science Woes.* Messenger-Inquirer, Owensboro, KY, February 21, 2007.
- Jester, Art. *Task Force on Science, Math Teaching Meets.* The Lexington Herald-Leader, December 20, 2006.
- Johnson, Jean, et. al. *Reality Check 2006. Issue No. 1: Are Parents and Students Ready for More Math and Science?* Public Agenda, New York, 2006. <http://www.publicagenda.org>.
- Kentucky Council on Postsecondary Education. Minutes from the November 6, 2006, Council Meeting. <http://www.cpe.ky.gov/NR/rdonlyres/1A73AE9A-5E57-42C5-9A56-0B507B160E17/0/110606CPE.pdf>.
- Kentucky Council on Postsecondary Education. *Science, Technology, Engineering, and Mathematics.* Frankfort, Kentucky, <http://cpe.ky.gov/info/stem>.
- Kentucky Per Capita Income Analysis.* SRI International, Arlington, VA, 2006.
- Knocking at the College Door – Projections of High School Graduates by State, Income, and Race/Ethnicity.* Kentucky, December 2003. <http://www.wiche.edu>.
- Martin, Tom. *Area Businesses Rally Behind Education.* Business Lexington, January 26, 2007.
- Martin, Tom. *"World Class?" Let's Give it Meaning.* Business Lexington, January 12, 2007.
- National Center on Education and the Economy. *Tough Choices or Tough Times, The Report of the New Commission on the Skills of the American Workforce.* Jossey-Bass, San Francisco, December 22, 2006.

- National Governors Association. *Innovation America*. NGA, Phoenix, AZ. 2006.
- National Science Foundation. *State of awarding institution, including the District of Columbia and Puerto Rico, ranked by number of doctorate recipients, 2005*.
- New Mexico Partnership for Math and Science Education. A sample of major National Reports on the Math and Science Crisis. [http://www.nassmc.org/pdfs/timeline\\_matrix2006.pdf](http://www.nassmc.org/pdfs/timeline_matrix2006.pdf).
- Otero, Valerie, et. al. *Who is Responsible for Preparing Science Teachers?* Science, Volume 313, July 28, 2006.
- Project Kaleidoscope – 2006, Report on Reports. Washington, D.C., 2006. <http://www.pkal.org>.
- Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future*. The National Academies Press, Washington, D.C., February 2006 Edition.
- Sacchetti, Maria. *School Chiefs Urge Cash Lure for Math and Science*. The Boston Globe, November 13, 2006. [http://www.boston.com/news/local/articles/2006/11/13/school\\_chiefs](http://www.boston.com/news/local/articles/2006/11/13/school_chiefs).
- Todd, Jr., Lee T. *Solving Kentucky's STEM Crisis*. The Courier-Journal, Louisville, KY, February 28, 2007.
- University of Maryland, Baltimore County. *The Meyerhoff Scholarship Program*. UMBC, <http://www.umbc.edu/meyerhoff/Undergrad/model.html>.
- Visioning Kentucky's Future: Measures and Milestones 2006*. Kentucky Long-Term Policy Research Center, Frankfort, Kentucky, 2006.

The Kentucky Council on Postsecondary Education does not discriminate on the basis of race, color, national origin, sex, religion, age, or disability in employment or the provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities.

Kentucky Council on Postsecondary Education  
1024 Capital Center Drive, Suite 320, Frankfort, KY 40601  
Phone: (502) 573-1555, Fax: (502) 573-1535  
Web site: <http://cpe.ky.gov>

This report is also available online at  
[http://www.cpe.ky.gov/news/reports/cpe\\_reports](http://www.cpe.ky.gov/news/reports/cpe_reports).

Printed with state funds  
Leon Zernitsky/SIS Illustrations



PROPOSED KENTUCKY BOARD OF EDUCATION  
2010 LEGISLATIVE AGENDA

**PRESCHOOL**

**Pre-K Learning Opportunity Expansion**

***Expand pre-K learning opportunities to 200% of poverty level for 4-year-olds.***

There is a growing body of research showing that focusing educational efforts on the early years yields economic and societal benefits that can rival more traditional economic development projects. Long-term studies reveal that adults who participated in quality early education programs as children, compared with those who did not, have higher lifetime earnings, higher rates of home ownership, lower arrest rates and less need for social services. The Kentucky Board of Education encourages the General Assembly to build on the traditions established in the 1990 Kentucky Education Reform Act and later early childhood innovations to assure that all of Kentucky's youngest citizens have access to quality preschool opportunities in their communities. Raising the current limit of 150% of poverty to a higher level would enable more children to participate in this opportunity.

***LOCAL FACILITY FUNDING CAPACITY: SCHOOL FACILITIES EVALUATION  
COMMITTEE RECOMMENDATIONS***

The 2006 budget bill required the Kentucky Department of Education, in partnership with the School Facilities Construction Commission, to conduct a comprehensive evaluation of the processes for planning, funding and maintaining school facilities. Local superintendents, finance officers, facility managers and other local school personnel, worked on this effort. The group recommended a number of changes to state statutes, including the following:

**Taxing Authority**

***Amend KRS 157.440 (Facilities Support Program of Kentucky) to increase the five-cent equivalent tax rate for facilities to ten cents. All districts should be required to levy ten cents. Those districts already levying ten cents or more are authorized to levy an additional five cents, but not required. All facility funding (except the growth levy) should become part of the FSPK program.***

Local districts need additional funds to meet the facilities needs of Kentucky's school districts. Increasing the required tax rate for participation in the FSPK from five cents to ten cents ensures continuation of an equitable program, with the addition of both state and local funding. For just the current five-cent only districts, this would provide an estimated \$83 million at the local level total, and if equalized, an additional \$44 million for bonding for school facilities.

## ***INCREASING GRADUATION RATES***

### ***Dropout Prevention Grants***

***Amend KRS 158.146(4) to remove priority in the awarding of dropout prevention grants to districts with chronically high dropout rates, remove the requirement to direct 75% of available funds to elementary and middle school students and 25% to high school students, and focus the grant program on supporting promising practices that are systemic, scalable, and replicable, and aligned with the principles of secondary reform.***

Dropout prevention needs to move forward in the context of persistence to graduation for all students and be more closely tied to the overall middle and high school reform agenda.

KRS 158.146(4) requires that priority for grants be given to districts that average over a three-year period a dropout rate of 5% or more. When the statute was enacted, that criterion captured a large number of districts. Today, because of the progress that has been made, the number of eligible districts is much smaller. Because these districts must receive priority, some districts that would not otherwise be recommended for funding receive grants repeatedly.

Staff has proposed the following:

- KDE will use part of the state funding to offer mini-grants to school districts to support innovative dropout prevention programs to serve as models that can be easily replicated and sustained in other school districts. These mini-grants would support projects involving high-quality instruction for all students, implementation of relevant and rigorous curriculum for all students, and the establishment or expansion of advising programs (including mentoring, character education, etc.).
- KDE will use part of the state funding to support statewide strategies (including virtual learning), which could be utilized by all districts. This could include the development of performance-based courses and credit recovery courses to be offered through the Kentucky Virtual Schools.

### ***Compulsory School Attendance***

***Raise the compulsory school age to 17 in 2010-2011 and 18 in 2011-2012.***

As the economy demands a higher-skilled labor force, research shows that dropouts have fewer chances for success later in life. A 2009 study indicated that less than half of young dropouts were employed, 22 points below the employment rate for those with a high school diploma in the same 16-24 year-old cohort. (Center for Labor Market Studies, Northeastern University, Boston, Massachusetts, October 2009). Dropouts are more likely to receive public welfare, have health problems and be incarcerated. An estimated 6,500 Kentucky students drop out of grades 9-12. The compulsory school age would be raised to 17 in 2010-2011 and 18 in 2011-2012.

To be effective this proposal must be supported by the types of resources proposed in the

dropout prevention grant proposal. Resources for more dual credit opportunities, middle college experiences, career learning (CTE), credit recovery, alternative settings, etc., will be needed in order for the additional time in school to be productive learning time. These additional resources will have to be considered in the funding for extending the mandatory school attendance age.

### ***PERSISTENTLY LOW-ACHIEVING SCHOOLS***

#### ***School governance changes***

The work being done in conjunction with the federal School Improvement Grants, the Race to the Top grants, and the temporary increases in Title I and IDEA funding have focused a lot of attention on the persistently lowest-achieving schools (defined as those schools whose student achievement is in the lowest 5% of all schools as evidenced by total percent of proficient/distinguished in reading and math combined for at least three consecutive years) and their issues and circumstances. The guiding considerations in working on these grants have been centered on the question: “With or without the grants, what would cause positive change in our lowest-achieving schools?”. To address these issues may require changes in how schools are governed. The four federal models for governance changes are:

- School closure
- Drastic school transformation by certain specific criteria
- Replacement of the principal and 50% of staff
- Using an external education management organization or entity

Statutory changes will be needed to effect the last three options because they each affect the mechanisms and even definitions of school leadership, principal hiring and assignment, and school governance in general.

#### ***Add chronic, low student academic performance as a cause for removal of a superintendent or school board member (KRS 156.132)***

Student learning is the core function of a school system. It should be a fundamental consideration in judging fitness for these critical roles in public school systems.

## **KIDS NOW Initiatives**

### **Assuring Maternal and Child Health**

#### **Healthy Babies Campaign**

Information and support provided in the following areas:

- Folic acid
- Substance Abuse
- Eye Examinations
- Oral Health
- Immunizations
- Universal Newborn Hearing

### **Supporting Families**

HANDS (Home Visitation): HANDS is a voluntary intensive home visitation program designed to assist parents at critical development points during their child's first years of life.

Early Childhood and Mental Health

Children's Advocacy Centers: The Child Advocacy Centers provide services to children who have been sexually abused. The child receives a comprehensive examination at one of the clinics across the state. These clinics are designed to make the child feel safe and minimize the trauma associated with the victimization and examination.

### **Enhancing Early Care and Education**

STARS for KIDS NOW (Quality Rating System for child care providers): This system uses a scale of 1 through 4 STARS to identify levels of quality. All STAR levels surpass the minimum licensing requirements, that all programs must meet. Early care and education programs work to meet standards associated with quality care that result in positive outcomes for young children. Programs are assessed in the following areas: staff/child ratios, group size, curriculum, parent involvement, training/education of staff, regulatory compliance, and personnel practices.

Healthy Start Kentucky

Community Early Childhood Councils: A Community Early Childhood Council (CECC) addresses the unique needs and strengths of local communities related to early childhood. The Community Early Childhood Council is a vehicle for bringing together many community members to support issues of importance to children and families.

Scholarship Fund: The Early Childhood Development Scholarship provides a seamless system to upgrade the professional development of child-care workers and trainers. The state legislature and the Governor created the Early Childhood Development Scholarship as part of the KIDS NOW early childhood initiative.

## Professional Development Framework

**First Steps:** First Steps is a statewide early intervention system that provides services to children with developmental disabilities from birth to age 3 and their families. First Steps is Kentucky's response to the federal Infant-Toddler Program. First Steps offers comprehensive services through a variety of community agencies and service disciplines and is administered by the Department for Public Health in the Cabinet for Health and Family Services.

## **Establishing the Support Structure**

**Early Childhood Development Authority:** The authority shall have the ability to make expenditures from the early childhood development fund and shall ensure that expenditures made from the early childhood development fund are in conformance with its duties as established by the General Assembly.

**Business Council:** The function of the council shall be to: (a) Involve the corporate community, county judge/executives, and mayors in supporting issues of importance to working families with young children in the Commonwealth; and to (b) Collect and disseminate information about the various ways business and local government can become involved in supporting early childhood development.

**Professional Development Council:** The Early Childhood Professional Development Council, in collaboration with the Council on Postsecondary Education, shall: (a) Work with existing entities to develop an early child care and education credential system to facilitate the attraction and retention of persons who provide early child-care and education services; (b) Work to develop a seamless system of professional development beginning with entry level employment in early child care and education and proceeding through a master's degree-level program.

**Evaluation of the Initiative:** This evaluation of the KIDS NOW initiative focuses on the components included in the Enhancing Early Care and Education sections of the initiative. The research is conducted through a joint effort of teams from the University of Kentucky and the University of Louisville. The team is required to report reports findings to the Early Childhood Development Authority and the legislature by July 1 of each year.



STEVEN L. BESHEAR  
GOVERNOR

EXECUTIVE ORDER

Secretary of State  
Frankfort  
Kentucky

2009-232  
March 13, 2009

**AMENDED ORDER RELATING TO THE ESTABLISHMENT OF THE  
GOVERNOR'S TASK FORCE ON EARLY CHILDHOOD  
DEVELOPMENT AND EDUCATION**

**WHEREAS**, Kentucky is committed to the educational success, health and welfare of its children; and

**WHEREAS**, Kentucky has made substantial commitments to improving the provision of early childhood development and education services through the KIDS NOW programs funded through Kentucky's tobacco settlement proceeds, the KERA pre-school program, and several other initiatives aimed at improving child and maternal health, child development, and school readiness; and

**WHEREAS**, research shows that investment in high quality early childhood education results in later academic success; and

**WHEREAS**, the expansion of child health programs and high quality educational opportunities are prerequisites to achieving more meaningful readiness for Kindergarten and ultimate success thereafter; and

**WHEREAS**, Kentucky's system of early childhood development and education should recognize, incorporate and value the continuing role of private child care providers and private early childhood education providers, both not-for-profit and for-profit; and further recognizes that the delivery of early childhood development and education services crosses the boundaries of several different government sectors; and

**WHEREAS**, it has been determined that a comprehensive review of the delivery of early childhood development and education services is appropriate to ensure a more effective use of the public's resources, greater collaboration among the wide variety of early childhood development and education providers, and an effective transition to Kindergarten:

**NOW, THEREFORE**, I, Steven L. Beshear, Governor of the Commonwealth of Kentucky, by virtue of the authority vested in me by the Constitution and the laws of the Commonwealth, and KRS 12.029, do hereby Order and Direct the following:

1. There is hereby created and established the Governor's Task Force on Early Childhood Development and Education ("Task Force") which shall be responsible for reviewing the delivery of early childhood development and education services in Kentucky and recommending improvements to the system to accomplish:
  - Greater collaboration among providers of services to young children
  - Quality at all levels from early childcare through kindergarten
  - Agreement on what constitutes school readiness



STEVEN L. BESHEAR  
GOVERNOR

EXECUTIVE ORDER

Secretary of State  
Frankfort  
Kentucky

2009-232  
March 13, 2009

- Reliance on accepted early learning standards and assessment
2. The Task Force will be attached to the Education and Workforce Development Cabinet for administrative purposes.
  3. The duties of the Task Force shall include, but are not limited to, the following:
    - a. Develop a unified vision for early childhood education and development incorporating all aspects of the early childhood, development and education systems.
    - b. Identify opportunities for, and barriers to, collaboration and coordination among Federally-funded and State-funded child development, child care, and early childhood education programs and services, including collaboration and coordination among State agencies responsible for administering such programs.
    - c. Define "school readiness".
    - d. Revalidate early childhood standards and identify ways to ensure they are widely understood and used effectively in the programming for high quality early care and pre-school programs and used across education, Head Start and child care.
    - e. Examine the STARS program for child care programs and recommend ways to enhance its effectiveness to promote improved quality of child care programs and to make it a more useful and effective tool for parents.
    - f. Analyze child assessment requirements and needs; re-examine the Kentucky recommended assessment tools and win broader understanding of and common acceptance by child care, pre-school programs and kindergartens.
    - g. Work with the Kentucky Department of Education to urge adoption of a model curriculum framework for the KERA pre-schools and to review kindergarten standards.
    - h. Identify ways to strengthen the role of the Community Early Childhood Councils.
    - i. Recommend a coherent system of state level management for the effective provision of early child development and education services for children ages birth to six.
  4. The co-chairs of the Task Force shall be: Secretaries Helen Mountjoy and Janie Miller.



# Commonwealth of Kentucky

## CONTRACT

Show Doc ID number on all packages, invoices and correspondence.

<b>Doc Description:</b> Teacher and Leader Working Conditions Survey PSC	
<b>Doc ID No:</b> PON2 540 1000001626 1	<b>Procurement Folder:</b> 1714538
<b>Procurement Type:</b> Personal Service Contract	
<b>Administered By:</b> DEANNA TACKETT	<b>Cited Authority:</b> FAP111-43-00-STD
<b>Telephone:</b> 502-564-2351	<b>Issued By:</b> DEANNA TACKETT

New Teacher Center  
 725 Front St. Ste.400  
 Santa Cruz CA 95060  
 US

APPROVED-FM  
 APR 13 2010  
 Approved by FAC

Line	CL Description	Qty	Unit Price	Contract Amt	Total Price
1	Teacher Working Conditions Survey PSC	0.00	0.00000	137,000.00	137,000.00

**Extended Description**

Effective Date: April 15, 2010  
 Expiration Date: June 30, 2010

Under the direction of the Office of Leadership and School Improvement, Division of Educator Quality and Diversity, the contractor shall perform the following duties: The contractor shall facilitate the formulation of a teacher and leader working conditions survey.

The contractor shall provide services to meet the expectations of the Kentucky Department of Education (KDE) as outlined in Solicitation #RFP-540-100000228. Upon approval of a contract, the vendor will work with KDE in the origination of key deliverable dates. Dates must be agreeable by both parties.

This contract, along with the solicitation, the vendor's technical proposal, and revised cost proposal received via email on March 25, 2010, are incorporated into this contract by reference. Any deviation from the proposals submitted must follow the change order/modification process and be approved by both parties.

As stated in the solicitation, it is KDEs intent to maintain a contractual agreement for the vendor's services beginning April 15, 2010 through June 30, 2010, contingent on available funding and satisfactory performance by the vendor. The solicitation included renewal language allowing the contract to be renewed for one (1) additional two (2) year period if it is in the best interest of the Commonwealth to do so.

As fee for the services described above, the State Agency agrees to pay the contractor as indicated:

A sum not to exceed \$137,000 to be paid in the following manner: Contractor shall be paid upon submission of invoices approved by the Division of Educator Quality and Diversity, based on cost proposal submitted. All travel and other related expenses shall be incorporated into the invoice for services. Itemized expenditure reports shall accompany all invoices identifying a breakdown of services, travel, and other related expenses.

Contractor's invoices shall be signed and include not less than the following information: Dates and detailed description of services provided, location of work performed, along with a total amount due.

**Extended Description**

339005 KDE FINANCIAL MGT 500 MERO ST  FRANKFORT US	KY 40601	339005 KDE FINANCIAL MGT 500 MERO ST  FRANKFORT US	KY 40601
---	----------	---	----------

**Total Order Amount** 137,000.00

1000001626	<b>Document Phase</b> Draft	<b>Document Description</b> Teacher and Leader Working Con ditions Survey PSC	<b>Page 3</b> <b>of 10</b>
------------	--------------------------------	---	-------------------------------

Approvals:

This contract is subject to the terms and conditions as stated. By affixing signatures below, the parties agree that electronic approvals may serve as electronic signatures. In addition, the parties verify that they are authorized to bind this agreement between parties and that they accept the terms of the agreement.

2nd Party:

(b)(6) \_\_\_\_\_ CFO  
 Signature Title

Garfield Byrd \_\_\_\_\_ 4/2/2010  
 Printed Name Date

1st Party:

\_\_\_\_\_  
 Signature Associate Commissioner  
 Title

Helen DeSa \_\_\_\_\_ 4/12/10  
 Printed Name Date

Other Party:

\_\_\_\_\_  
 Signature Title

\_\_\_\_\_  
 Printed Name Date

Approved as to form and legality:

\_\_\_\_\_  
 Attorney

1000001626	<b>Document Phase</b> Draft	<b>Document Description</b> Teacher and Leader Working Con ditions Survey PSC	<b>Page 4</b> of 10
------------	--------------------------------	---	------------------------

**PSC Standard Terms and Conditions**  
**Revised 03Nov2009**

**Whereas**, the first party, the state agency, has concluded that either state personnel are not available to perform said function, or it would not be feasible to utilize state personnel to perform said function; and

**Whereas**, the second party, the contractor, is available and qualified to perform such function; and

**Whereas**, for the abovementioned reasons, the state agency desires to avail itself of the services of the second party;

**NOW THEREFORE**, the following terms and conditions are applicable to this contract:

**Effective Date:**

This agreement is not effective until the Secretary of the Finance and Administration Cabinet or his authorized designee has approved the contract and until the contract has been submitted to the Legislative Research Commission, Government Contract Review Committee ("LRC").

Payments on personal service contracts and memoranda of agreement shall not be authorized for services rendered after government contract review committee disapproval, unless the decision of the committee is overridden by the Secretary of the Finance and Administration Cabinet or agency head, if the agency has been granted delegation authority by the Secretary.

**Renewals:**

Upon expiration of the initial term, the contract may be renewed in accordance with the terms and conditions in the original solicitation. Renewal shall be subject to prior approval from the Secretary of the Finance and Administration Cabinet or his authorized designee and the LRC Government Contract Review Committee in accordance with KRS 45A.695 and KRS 45A.705, and contingent upon available funding.

**LRC Policies:**

Pursuant to KRS 45A.725, LRC has established policies which govern rates payable for certain professional services. These are located on the LRC webpage (<http://www.lrc.ky.gov/Statcomm/Contracts/homepage.htm>) and would impact any contract established under KRS 45A.690 *et seq.*, where applicable.

**Choice of Law and Forum:**

All questions as to the execution, validity, interpretation, construction and performance of this agreement shall be governed by the laws of the Commonwealth of Kentucky. Furthermore, the parties hereto agree that any legal action which is brought on the basis of this agreement shall be filed in the Franklin County Circuit Court of the Commonwealth of Kentucky.

1000001626	<b>Document Phase</b> Draft	<b>Document Description</b> Teacher and Leader Working Con ditions Survey PSC	<b>Page 5</b> of 10
------------	--------------------------------	---	------------------------

**Cancellation:**

The state agency shall have the right to terminate and cancel this agreement at any time not to exceed thirty (30) days' written notice served on the contractor by registered or certified mail.

**Funding Out Provision:**

The state agency may terminate this contract if funds are not appropriated to the contracting agency or are not otherwise available for the purpose of making payments without incurring any obligation for payment after the date of termination, regardless of the terms of the contract. The state agency shall provide the contractor thirty (30) calendar days written notice of termination of the contract.

**Authorized to do Business in Kentucky:**

The contractor affirms that it is properly authorized under the laws of the Commonwealth of Kentucky to conduct business in this state and will remain in good standing to do business in the Commonwealth of Kentucky for the duration of any contract awarded.

**Invoices for fees:**

The contractor shall maintain supporting documents to substantiate invoices and shall furnish same if required by state government.

**Travel expenses, if authorized:**

The contractor shall be paid for no travel expenses unless and except as specifically authorized by the specifications of the contract.

**Other expenses, if authorized herein:**

The contractor shall be reimbursed for no other expenses of any kind, unless and except as specifically authorized within the specifications of the contract.

If the reimbursement of such expenses is authorized, the reimbursement shall be only on an out-of-pocket basis. Request for payment of same shall be processed upon receipt from the contractor of valid, itemized statements submitted periodically for payment at the time any fees are due. The contractor shall maintain supporting documents that substantiate every claim for expenses and shall furnish same if requested by state government.

- ✎ Invoicing for fee: the contractor's fee shall be original invoice(s) and shall be documented by the contractor. The invoice(s) must conform to the method described in the specifications of the contract.
- ✎ Invoicing for travel expenses: the contractor must follow instructions described in the specifications of the contract. Either original or certified copies of receipts must be submitted for airline tickets, motel bills, restaurant charges, rental car charges, and any other miscellaneous expenses.
- ✎ Invoicing for miscellaneous expenses: the contractor must follow instructions prescribed in the specifications of the contract. Expenses submitted shall be documented by original or certified copies.

1000001626	<b>Document Phase</b> Draft	<b>Document Description</b> Teacher and Leader Working Conditions Survey PSC	<b>Page 6</b> of 10
------------	--------------------------------	--	------------------------

**Purchasing and specifications:**

The contractor certifies that he will not attempt in any manner to influence any specifications to be restrictive in any way or respect nor will he attempt in any way to influence any purchasing of services, commodities or equipment by the Commonwealth of Kentucky. For the purpose of this paragraph and the following paragraph that pertains to conflict-of interest laws and principles, "he" is construed to mean "they" if more than one person is involved and if a firm, partnership, corporation, or other organization is involved, then "he" is construed to mean any person with an interest therein.

**Conflict-of-interest laws and principles:**

The contractor certifies that he is legally entitled to enter into this contract with the Commonwealth of Kentucky, and by holding and performing this contract will not be violating either any conflict of interest statute (KRS 45A.330-45A.340, 45A.990, 164.390), or KRS 11A.040 of the executive branch code of ethics, relating to the employment of former public servants.

**Campaign finance:**

The contractor certifies that neither he/she nor any member of his/her immediate family having an interest of 10% or more in any business entity involved in the performance of this contract, has contributed more than the amount specified in KRS 121.056(2), to the campaign of the gubernatorial candidate elected at the election last preceding the date of this contract. The contractor further swears under the penalty of perjury, as provided by KRS 523.020, that neither he/she nor the company which he/she represents, has knowingly violated any provisions of the campaign finance laws of the Commonwealth, and that the award of a contract to him/her or the company which he/she represents will not violate any provisions of the campaign finance laws of the Commonwealth.

**Certification:**

The state agency certifies that it is in compliance with the provisions of KRS 45A.695. "Access to contractor's books, documents, papers, records, or other evidence directly pertinent to the contract". The contractor, as defined in KRS 45A.030(9), agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this contract for the purpose of financial audit or program review. Furthermore, any books, documents, papers, records, or other evidence provided to the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, or the Legislative Research Commission which are directly pertinent to the contract shall be subject to public disclosure regardless of the proprietary nature of the information, unless specific information is identified and exempted and agreed to by the Secretary of the Finance and Administration Cabinet as meeting the provisions of KRS 61.878(1)(c) prior to the execution of the contract. The Secretary of the Finance and Administration Cabinet shall not restrict the public release of any information which would otherwise be subject to public release if a state government agency was providing the services.

1000001626	<b>Document Phase</b> Draft	<b>Document Description</b> Teacher and Leader Working Con ditions Survey PSC	<b>Page 7 of 10</b>
------------	--------------------------------	---	-------------------------

**Protest**

Pursuant to KRS 45A.285, The Secretary of the Finance and Administration Cabinet, or his designee, shall have authority to determine protests and other controversies of actual or prospective Vendors in connection with the solicitation or selection for award of a Master Agreement or Contract.

Any actual or prospective Vendor, who is aggrieved in connection with the solicitation or selection for award of a Master Agreement or Contract, may file protest with the Secretary of the Finance and Administration Cabinet. **A protest or notice of other controversy must be filed promptly and in any event within two (2) calendar weeks after such aggrieved person knows or should have known of the facts giving rise thereto. All protests or notices of other controversies must be in writing and shall be addressed to:**

**Jonathan Miller, Secretary**  
Commonwealth of Kentucky  
Finance and Administration Cabinet  
Room 383, New Capitol Annex  
702 Capitol Avenue  
Frankfort, KY 40601  
Phone #: (502) 564-4240  
Fax #: (502) 564-6785

The Secretary of Finance and Administration Cabinet shall promptly issue a decision in writing. A copy of that decision shall be mailed or otherwise furnished to the aggrieved party and shall state the reasons for the action taken.

The decision by the Secretary of the Finance and Administration Cabinet shall be final and conclusive.

**Social security: (check one)**

the parties are cognizant that the state is not liable for social security contributions pursuant to 42 U.S. Code, section 418, relative to the compensation of the second party for this contract.

the parties are cognizant that the state is liable for social security contributions

1000001626	<b>Document Phase</b> Draft	<b>Document Description</b> Teacher and Leader Working Con ditions Survey PSC	<b>Page 8</b> of 10
------------	--------------------------------	---	------------------------

pursuant to 42 U.S. Code, section 418, relative to the compensation of the second party for this contract.

**Violation of tax and employment laws:**

KRS 45A.485 requires the contractor to reveal to the Commonwealth, prior to the award of a contract, any final determination of a violation by the contractor within the previous five (5) year period of the provisions of KRS chapters 136, 139, 141, 337, 338, 341, and 342. These statutes relate to the state sales and use tax, corporate and utility tax, income tax, wages and hours laws, occupational safety and health laws, unemployment insurance laws, and workers compensation insurance laws, respectively.

To comply with the provisions of KRS 45A.485, the contractor shall report any such final determination(s) of violation(s) to the Commonwealth by providing the following information regarding the final determination(s): the KRS violated, the date of the final determination, and the state agency which issued the final determination.

KRS 45A.485 also provides that, for the duration of any contract, the contractor shall be in continuous compliance with the provisions of those statutes which apply to the contractor's operations, and that the contractor's failure to reveal a final determination as described above or failure to comply with the above statutes for the duration of the contract, shall be grounds for the Commonwealth's cancellation of the contract and the contractor's disqualification from eligibility for future state contracts for a period of two (2) years.

Contractor must check one:

The contractor has not violated any of the provisions of the above statutes within the previous five (5) year period.

the contractor has violated the provisions of one or more of the above statutes within the previous five (5) year period and has revealed such final determination(s) of violation(s). A list of such determination(s) is attached.

**Discrimination:**

Discrimination (because of race, religion, color, national origin, sex, age, or disability) prohibited. This section applies only to contracts utilizing federal funds, in whole or in part. During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, religion, color, national origin, sex or age. The contractor further agrees to comply with the provisions of the Americans with Disabilities Act (ADA), Public Law 101-336, and applicable federal regulations relating thereto prohibiting discrimination against otherwise qualified disabled individuals under any program or activity. The contractor agrees to provide, upon request, needed reasonable accommodations. The contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, national origin, sex, age or disability. Such action shall

1000001626	<b>Document Phase</b> Draft	<b>Document Description</b> Teacher and Leader Working Con ditions Survey PSC	<b>Page 9 of 10</b>
------------	--------------------------------	---	-------------------------

include, but not be limited to the following; employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensations; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.

2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, national origin, sex, age or disability.

3. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

4. The contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965 as amended, and of the rules, regulations and relevant orders of the Secretary of Labor.

5. The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, as amended, and by the rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

6. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations or orders, this contract may be cancelled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further government contracts or federally-assisted construction contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, as amended, and such other sanctions may be imposed and remedies invoked as provided in or as otherwise provided by law.

7. The contractor will include the provisions of paragraphs (1) through (7) of section 202 of Executive Order 11246 in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor, issued pursuant to section 204 of Executive Order No. 11246 of September 24, 1965, as amended, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions including sanctions for noncompliance; provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the agency,

	<b>Document Phase</b>	<b>Document Description</b>	<b>Page</b>
1000001626	Draft	Teacher and Leader Working Con ditions Survey PSC	10 of 10

**the contractor may request the United States to enter into such litigation to protect the interests of the United States.**

TEACHER WORKING CONDITIONS RFP

Addendum A to Contract Doc ID: PON2 540 1000001626 1  
Between New Teacher Center and Commonwealth of Kentucky

Ownership of Materials.

- 1.1 For purposes of this Agreement, "Materials" shall include any and all records, reports, documents, booklets, training modules, resource and instructional guides, and such other writings and recordings, regardless of form (video, etc.) and whether tangible or intangible, the right to which the New Teacher Center ( NTC ) has previously established or which New Teacher Center creates or produces for the first time in the performance of its obligations pursuant to this Agreement.
- 1.2 KDE acknowledges that NTC provides K-12 school-based educator full population surveys of teaching and learning conditions in other locations throughout the country, and that such services are similar to the services the NTC will provide pursuant to this Agreement; and further, that such services NTC provides elsewhere result in the preparation of Materials that may be similar to those Materials provided pursuant to this Agreement.
- 1.3 NTC agrees that KDE shall retain all right, title and interest in and all Materials, Raw Data and Survey Questions, and Reports specific to KDE and created pursuant to this contract.
- 1.4 To facilitate necessary, timely, and appropriate access to research data, the NTC reserves the right to assume physical possession of such data as it is collected on the web-based survey site. The NTC will be responsible for cleaning, verifying and otherwise assuring the accuracy of the data. NTC retains non-exclusive, irrevocable, royalty-free license to use all research data for purposes of internal research, education, and/or protection of intellectual property when the data are generated at or under the auspices of KDE. The NTC will provide KDE with raw data in a timely manner, consistent with best practices after cleaning, verifying, and assuring accuracy of the data, and in a format acceptable to KDE for their analysis. The NTC retains the responsibility to produce reports for KDE as defined in the Scope of Work.

Signed: Garfield Byrd, CFO



Signed: KDE -



10/7

## **Turn Around Modules**

### **MODULE 1: Leading Change**

#### **EXECUTIVE SUMMARY:**

This course will provide the participant the competencies for leading and managing change and utilizing data for planning and school improvement as well as experiences in operationalizing these competencies. The outcomes will be accomplished through the examination of change theory as well as institutions engaged in successful change practices, the study of data based decision making and planning, and the application of skills for organizational renewal. This module is foundational to all of the modules in the turnaround training process. Completion of this course will result in a school leadership team that has the competencies to successfully lead in an environment of change.

### **MODULE #2: Building and Sustaining an Achievement Oriented and Accountability Based Culture**

#### **EXECUTIVE SUMMARY:**

The process of turning around low-performing schools involves making changes that mobilize resources to assist schools in creating and sustaining an achievement orientated and accountability based culture. This requires a commitment to a long-term and continuous process of school improvement. The leadership of low performing schools must have knowledge and the tools to create an environment that supports school efforts to improve. The elements of a supportive environment focused on in this module are: 1.) Building collaborative school cultures by improving relationships between staff, students, parent and community, 2. Mitigating poverty's effect on learning and 3. Building and maintaining strong leadership for school improvement that promotes a professional culture of teaching and learning.

Leaders must be better equipped to shape the values, beliefs, and attitudes necessary to promote a stable and nurturing learning environment and to create healthy, sound school cultures with increased student achievement and motivation.

### **MODULE #3: Effective Learning Systems with Emphasis on Literacy and Mathematics**

#### **EXECUTIVE SUMMARY**

Acting on the principle that "there is no specific set of actions that applies equally well to every turnaround situation," school leadership teams need to tailor practices to their specific environments and contexts for the school to which they are assigned. Turnaround teams use strategies for leading effective literacy and numeracy initiatives and interventions. Turnaround teams should facilitate professional learning communities leading them in developing and using strategies for effective use of balanced assessment data to inform: professional practice; appropriate instructional changes; progress monitoring; and necessary adjustments within the

learning systems. Turnaround teams must incorporate strategies for leading professional learning communities in the use of protocols for developing and sustaining effective learning systems.

Acting on the research which demonstrates the significance of effective teachers and leaders in successful learning organizations, turnaround teams must be able to build capacity for effectiveness among the faculty and staff of the low performing school to which they are assigned. Turnaround team members must be able to identify accomplished teachers, coach ineffective and developing teachers to becoming accomplished practitioners and build capacity among leaders to sustain continuous school improvement.

## **MODULE #4: Creating and Sustaining Systems of Continuous Improvement**

### **EXECUTIVE SUMMARY:**

Creating and sustaining meaningful change requires that a culture shift occur in an organization. Clarity of purpose, openly communicated and mutually pursued, is central to such a culture shift, particularly in a turnaround situation. This single-minded approach to reaching goals requires the presence of several leadership and organizational skills or characteristics to succeed and continue. Time must become a precious commodity and effective strategies to prioritize tasks of leaders and staffs to most efficiently focus this and all other resources on the most critical work should be identified and implemented. Leadership should openly and effectively communicate with all stakeholders and actively collaborate with these groups to achieve goals. The organization should be marked by a climate of shared decision-making, wherein leadership capacity in all role groups is actively identified, developed and effectively targeted to appropriate initiatives. The recruitment, development and retention of strong and effective leaders and staff are essential to ensure that high quality in all aspects of the organization can be created and sustained. Understanding and ensuring that all of these characteristics are developed and sustained in the organization is a central task of leadership in a turnaround school.

The New Teacher Center is a national non-profit focused on teacher and administrator induction. America's schools are now welcoming record numbers of new educators. Typically, the newest teachers are placed in the most difficult classes in the neediest schools. Not surprisingly, many of their educational careers will not survive this trial by fire. In contrast, the New Teacher Center (NTC) has a demonstrable record of achievement, with long-term new teacher retention rates as high as 95 percent, compared to a nationwide dropout rate of nearly 50 percent. New and veteran teacher success is dependent on school context. NTC understands that critical teaching and learning conditions need to be in place for all educators to thrive. Teachers and school leaders need time to work and collaborate in a trusting environment where educators are empowered to make critical decisions that impact their students. Gathering data on whether those conditions are in place and helping educators to use the data to create great schools to teach and learn is the hallmark of the NTC work.

NTC is the only organization in the nation that can provide comparative data from additional states on similar survey questions, making the type of analyses it can provide exclusively unique. NTC conducted 13 teaching and learning conditions surveys in ten states and one of the nation's largest districts to conduct surveys during the 2007-2010 school years, creating an up to date database of more than 300,000 survey respondents and school-wide information for more than 7,500 schools across all contexts. NTC is the only organization in the nation that will have access to survey data from other states since 2007 and therefore is the only group that can analyze Kentucky data relative to other states.

NTC has used statistical analyses of the results of previous iterations of teacher working conditions surveys in 2008-2009, compared them with previous reviews, and attained external expert advice on survey revisions to create our current approach to survey design. Most recently, with funding from the Bill and Melinda Gates Foundation, Learning Point Associates worked with NTC to conduct a psychometric analysis of the NTC core working conditions survey instrument. Data from 11 survey administrations were analyzed concurrently to place items onto similar scoring metrics and examine consistency within each examined construct. Rasch rating scale models were used to assess item fit, point measure correlations, rating scale functioning, targeting of items and construct dimensionality. The analyses showed that all constructs were unidimensional and the instrument was reliable for its intended use of providing data for school improvement planning. Additionally, all state surveys at NTC have gone through rigorous evaluations of their validity and reliability.

**Under contract with the Kentucky Department of Education (May 2010) to administer a Kentucky Teacher Leader and Working Conditions Survey, NTC and KDE are working with key stakeholders and practitioners to build a strong coalition of partners to administer the first biennial survey in the spring 2011.** Additionally, NTC brings to this partnership work with KDE:

- The robust data platform NTC has built for schools to access survey results, view detailed and summary data, and download summary results directly to excel (for an example, see [www.ncteachingconditions.org](http://www.ncteachingconditions.org)).

[www.newteachercenter.org](http://www.newteachercenter.org)

---

- An understanding of what it takes to conduct a statewide full population survey. Response rates for some initiatives lead by NTC have been 89 percent in North Carolina, 75 percent in Fairfax County, 63 percent in Maryland. NTC has templates and successful strategies around conducting a survey, public relations and outreach to educators, use of incentives, creation and maintenance of a help desk to provide assistance throughout the survey, web design and survey hosting, etc.
- A unique mixture of credibility with both practitioners and policymakers. NTC has presented analyses to educators, stakeholders and policymakers, enabling NTC to assist not only with conducting the initiative and analyzing results, but writing targeted reports and briefs that resonate with varied audiences to ensure survey data is used to inform policy and practice. NTC works closely with teacher associations (NEA, AFT and its affiliates), administrator groups, policymakers and other state and national non-profits to understand and utilize results.
- Experience working with schools and districts in utilizing data to change policy and practice. A variety of tools have been developed which can serve as a springboard for work in Kentucky for parents, school and district leaders, and policymakers (see [www.ncteachingconditions.org](http://www.ncteachingconditions.org)).

## CCSSO ANNOUNCES PARTNERSHIP FOR NEXT GENERATION LEARNING - Six States Selected to Form Innovation Labs to Transform Public Education

**Contact:**

Paul Ferrari  
paulf@ccsso.org  
(202) 312 6870

Washington, DC, May 3, 2010 – The Council of Chief State School Officers (CCSSO) in alliance with the Stupski Foundation announced Kentucky, Maine, New York, Ohio, West Virginia and Wisconsin as the first states to launch a pioneering partnership to transform the nation's public education system and dramatically lift the quality of learning and achievement for all children in public schools.

"This provides a unique opportunity for educators to evaluate our current practices and to find ways to graduate all children with the knowledge and skills they need to succeed," said CCSSO Executive Director Gene Wilhoit. "This will require open questioning of our current system and working together to create a new educational system that can deliver these exciting approaches to every child in every public school on a consistent basis."

In November 2009, CCSSO and the Stupski Foundation established the Partnership for Next Generation Learning to create the innovation environments and flexibility that school, district and state education leaders need in order to design systems that can deliver excellent student outcomes on a broad scale.

"We are well aware of the numerous pressures that our school, district and state education leaders face on a daily basis," said Alexa Cortes Culwell, the Stupski Foundation's chief executive officer. "Working with CCSSO, the Stupski Foundation is committed to providing leaders in the partnership's six groundbreaking states with the supports they need to drive change in their systems so that all children can excel in their education, particularly children of poverty and color."

The partnership states will begin their work in May by setting up Innovation Labs made up of selected schools, districts, state education agencies as well as early childhood programs, universities and other key partners. The labs will collaborate with cross sector experts inside and outside of education to examine and adopt effective teaching, learning, and student assessment practices. Around that effort, the labs will design new systems at the district and state levels that can scale these approaches.

As the first six states move forward, "we want the partnership to be a catalyst for many more states to take action, share efforts and accelerate change," said CCSSO Executive Director Gene Wilhoit.

---

*The Council of Chief State School Officers (CCSSO) is a nonpartisan, nationwide, nonprofit organization of public officials who head departments of elementary and secondary education in the states, the District of Columbia, the Department of Defense Education Activity, and five U.S. extra-state jurisdictions. CCSSO provides leadership, advocacy, and technical assistance on major educational issues.*

*Based in San Francisco, the Stupski Foundation was established in 1996 to catalyze change in public school systems so that all children graduate ready for college, career and life.*

-30-

<< Back

last updated 5/5/2010

**Council of Chief State School Officers**  
One Massachusetts Avenue, NW · Suite 700  
Washington, DC 20001-1431  
voice: 202.336.7000 · fax: 202.408.8072

Printed from: [http://www.ccsso.org/Whats\\_New/Press\\_Releases/14198.cfm](http://www.ccsso.org/Whats_New/Press_Releases/14198.cfm)

## Leadership Communities Project Overview

New economic and environmental circumstances have changed the face of small and rural communities across the United States. Kentucky's communities are a case in point, having long relied on economic activities that have become less viable, such as family farming, factory work, and coal mining. Concurrent with these developments has been an omnipresent concern both in Kentucky and around the country about whether public schools are adequately preparing children to succeed in new economic conditions within a high-tech, global society. Indeed, for the past 20 years Kentucky has been engaged in intensive efforts to improve its system of public schooling, reflecting – and at times leading – a similar nationwide movement.

Given changing economic circumstances coupled with slower-than-expected student achievement gains in Kentucky's schools, we believe that leadership and new thinking is sorely needed in Kentucky's communities to help citizens envision new futures that will improve the quality of life in their communities. With this proposal, the Partnership at NewCities requests \$855,500 over three years to assist 15 localities to become leadership communities by creating and implementing strategic plans that engage the entire community in revitalization. Each leadership community will employ the Partnership at NewCities process of civic engagement designed to bring together a diverse and comprehensive array of community representatives. These residents will “confront the brutal facts”<sup>1</sup> about their community by reviewing social and economic data as well as data about how well local schools and colleges are preparing students for the future. Reviewing these data will help them identify areas of need, which will be used to develop and implement a coherent plan to improve the community's social and educational institutions and, consequently, the quality of life.

The funding requested in this proposal will underwrite partially the costs to the Partnership at NewCities of its staff work in facilitating meetings, organizing and presenting data, and guiding the work of each community. This funding will be matched by extensive direct and indirect funding from each leadership community, thereby leveraging considerably the resources of the \_\_\_\_\_ Foundation. In addition, the project budget includes funds for a research and policy component that will not only provide formative feedback on how the work is progressing, but it will document the development work of these communities so it can be shared and replicated in communities across Kentucky and the nation. The Partnership at NewCities strongly believes that community development will not fully succeed if it does not orchestrate improvement across all sectors of the local community: commercial, educational, social, and governmental. We believe that representatives from all of these sectors must be involved in an intensive and inclusive public discussion about what needs to be done and who will do it.

In the pages that follow, we describe this project in greater detail. First we provide a rationale for merging community development and enhancing student performance—a central theme of this proposal. We then provide information about the two entities that recently combined to form the Partnership at NewCities, the work each has engaged in that contributes to this proposal, and the external partners that will support the work. Then we provide our plan for conducting the *Leadership Communities* efforts with our partners from around the Commonwealth. We

---

<sup>1</sup> Taken from Jim Collins' book Good to Great, published in 2001 by HarperCollins Publishers.

conclude with a brief budget discussion and with our reflections on the criticality of this project for the future of community development work in small and rural areas during the coming decades.

## **Rationale for the Project**

The Kentucky League of Cities (KLC) has existed for more than 80 years to provide a range of services to municipalities across the Commonwealth. As KLC carried forward this work, its leadership increasingly recognized that a reactive orientation on the part of Kentucky's communities would jeopardize their viability. KLC board and staff came to believe that as medium- and small-sized towns struggle with the continued decline of family farming, manufacturing, coal mining, and other activities that once drove local economies, these communities must become more intentional in developing strategic improvement plans for the future.

In 2001 KLC launched the NewCities Institute, a nonprofit organization devoted to civic engagement and community-based research, to create and field-test tools to help communities be more proactive about their future. NewCities was created out of a belief that if communities are to succeed in planning for the future, they must engage in a broad process of dialogue, visioning, data review, and assessment of strengths and weaknesses—a process involving not just leaders and elected officials but all constituents. Communities that successfully complete such a process, NewCities founders believed, can produce a viable blueprint for transformational and trans-generational change and improvement leading to greater quality of life and community sustainability.

At our nation's founding, Alexis de Tocqueville recognized the importance of civic life and emphasized the vital role it played in the early American republic of the 1830s. He claimed that civic involvement is essential to liberal democracy, especially to preserving our basic freedoms and acting as a safeguard against tyranny.<sup>2</sup>

In the last decade, many researchers have noted that Americans are becoming increasingly civically reclusive. In 1997, sociologist Michael Strynick wrote that the decline in civic involvement is killing American democracy.<sup>3</sup>

In his best seller Bowling Alone, Robert Putnam agrees with Strynick, but proposed that this decline in civic involvement is cyclical and will reverse in time.<sup>4</sup> Be that as it may, many social science researchers agree that the American community as we know it is in serious trouble.

<sup>2</sup>de Tocqueville, Alexis. Democracy in America. Chicago, IL: University of Chicago Press, 2000.

<sup>3</sup>Strynick, Michael. "The End of Community and the Politics of Grammar." *Cultural Critique* (1997): 195-215.

<sup>4</sup>Putnam, Robert. Bowling Alone. New York, NY: Simon and Schuster, 2000.

In reality, as Shakespeare suggested, a city's potential is influenced most by its citizens.

## The Purpose of Cities

In discussing their community development strategy, the NewCities Institute presented their thoughts about the purpose of cities in The Little Red Book of Every Day Heroes.<sup>5</sup>

*In many ways the word "city," a derivative of the ancient word civitas or "citizen," is more a verb than a noun. A city links its citizens to a vast array of services and opportunities that they otherwise would not have. It links people to each other, fostering a strong sense of community and concern.*

*A city thrives when its citizens collaborate to improve living conditions. At its best, a city is a collective idea, an unspoken agreement by its citizens to stand side by side through life's hardships and celebrations.*

*Said playwright and poet William Shakespeare:*

*"What is the city but the people?"*

*It is no accident that many historians describe the first forming of cities as the beginning of civilized man. Without cities, the civilization that has been laboriously built over the past millennia could never have happened.*

*Cities began for a variety of reasons. The first ones were small, primitive communities where citizens lived, worked and played together in order to have more opportunities for economic success. Citizens were able to share abilities and talents to produce more and trade with one another. These communities continued to develop and, over time, became more densely populated.*

*Also over time, they began taking on different functions. Cities began serving as centers of religion, defense, government, trade and commerce. Dominant in scholarship and housing great universities, laboratories and libraries and art galleries, cities became the cultural centers as well.*

*That is still the case today, though the function of cities is still evolving. One reason is ever-changing ideas about what it means to come together to do in concert what cannot be done alone. Thus modern era local governments were formed in the United States when the population increased beyond the size that could be accommodated by New England-style town meetings.*

*Still, today's city governments provide for the needs of their residents: safety to walk the streets, roads to get to the grocery or to work, parks for leisure pursuits. Additionally, they provide for clean water, waste disposal and utility services.*

*They also tend to take on responsibility for "community building," or enhancing the city's economic, cultural and social attributes. But at the end of the day there's only so much its leaders can do.*

<sup>5</sup>Lovely, Sylvia. The Little Red Book of Every Day Heroes. Lexington, KY: Clark Publishing (2007): 11-12.

On the surface, it seems logical that a strategic planning effort such as that envisioned by NewCities to improve a community's well-being and quality of life would include thoughtful reflection about how to improve student achievement in order to prepare the community's children to participate as productive citizens. In reality, however, public schools over a period of many years have become insulated from their local communities in important respects and are not easily incorporated into improvement planning efforts. While public schools may provide a center of social life through athletic and other extracurricular activities, citizens and community leaders have long been held at arms-length by school officials with regard to what and how students are taught.

The disjunction between communities and their local educational institutions as well as citizens and their leaders developed over many years. In the early decades of our nation citizens were highly engaged with community life. However, a professionalization movement that began over a century ago, replaced lay management of schools with a corporate management model dominated by education professionals (Tyack, 1974; Tyack & Hansot, 1982). This movement produced more consistency across school institutions, but it began to insulate schools and teachers from much parent and community influence. One result is that in many communities today, public schools occupy their own sphere, operating on a separate track from other community improvement work and in isolation from other local community leaders.

This current system seems to work from an organizational standpoint in terms of equipping, staffing, and operating hundreds of schools across a state like Kentucky. Yet parents and citizens have often wished for more input and interaction with local educational institutions. Over the past 50 years, efforts to re-engage parents and the community with public schools have arisen from several related streams of thought. A "community control" movement in the 1960s and 1970s originated outside the field of education and was designed to give members of poor and minority populations a voice in policies that affected them (Tyack 1974; Weise & Murphy 1995). This movement played out in the field of education through Head Start and similar programs that sought to involve parents on advisory and decision-making councils. In the 1980s there began another push for participatory decision-making in schools based on this same rationale – that those affected by policy should have a voice in setting policy. This occurred not only in education (Sarason, 1995) but in other fields including agriculture, social work, and community development (McTaggart, 1991; van Willigen, 1993; Whyte, Greenwood & Lazes, 1989).

The results of the movement to reconnect schools with communities have been diverse. In Kentucky, for example, the Prichard Committee for Academic Excellence was formed in 1980. That group lobbied for statewide school reform that took legislative shape in both 1985 and 1990, the latter law establishing site-based decision-making councils in most Kentucky schools. Similarly in Chicago, numerous citizen advocacy groups sprang up in the 1980s with the goal of improving the Chicago Public Schools. Their work ultimately led to the Chicago School Reform Act of 1988, which among other things established local school councils dominated by parents and community members (Hess, 1991).

A third example occurred in Philadelphia in the 1980s when the private sector became involved in trying to improve the Philadelphia schools. City and civic leaders established the Partnership for Public Education, which worked with the mayor and board of education to recruit a superintendent, and the Pew Charitable Trusts invested significant dollars in restructuring the city's neighborhood high schools (Christman & Rhodes, 2002).

In many large urban areas over the past 10 years, elected officials have become much more involved in trying to improve the relationship between the community and the educational system. This movement has largely failed to penetrate small, rural communities such as those found in Kentucky. Though most public schools in Kentucky now have school-based decision-making councils, these entities have largely failed to connect schools to their communities. Particularly in the urban areas with higher levels of civic involvement in public schooling, these interactions often have tended to be combative rather than collaborative. Often people think that having a council means school leaders have failed to do the job effectively so elected officials should play a larger role rather than understanding the collaborative opportunity the council provides.

The work proposed in this project involves a more collaborative approach that is designed to build on the more congenial, personal relationships that are typical of smaller communities. Even so, we recognize that breaking down the barriers between schools and their communities will be no small task. However, we are confident that the merger of the NewCities Institute with the Partnership for Successful Schools provides the expertise and organizational structure needed to help schools and communities work together to improve the quality of life in Kentucky's small, rural communities.

Before we detail our plans for the *Leadership Communities* project, we provide further background on the organizations that will undertake this endeavor. An overview of the work of these organizations will shed considerable light on the project proposed here and will also help demonstrate that the sponsoring organization has the capacity to carry out the project.

## **Organizational Capacity: The Partnership at New Cities and Its Partners**

### *The Kentucky League of Cities and the NewCities Institute*

The Kentucky League of Cities was founded in 1927 and serves as a membership organization for 380 cities across the Commonwealth providing a range of services to municipalities. The services include legislative advocacy; insurance, loss control and employee benefits; policy and research; legal and financial services; information technology; and training and education.

As the millennium began in 2000, the leadership at the League recognized that while it is important to take care of the day-to-day operations of city government, there were some sorely missing pieces. Citizens were no longer involved in government and only seemed to pay attention when taxes were being discussed or a project was going to touch them personally. For cities to truly be successful there had to be a connection between the citizens and their government. To help in that effort, in 2001 the Kentucky League of Cities launched the

NewCities Institute to promote civic engagement, and community and economic development efforts across the Commonwealth and in other states.

During its first several years of work, NewCities developed its 12 principles of community building and field-tested in numerous communities The NewCities process for strategic planning around these 12 principles. (See Appendix 1 for a listing of the principles and suggested queries associated with each one as well as a visual outline of the NewCities process.) This comprehensive and inclusive process typically unfolds over several months, involves an array of meetings facilitated by NewCities staff, and culminates with the development of a strategic plan for improving the quality of life in the community. The sequence of activities involves initially engaging community leaders, then involving the entire community in a series of “listening sessions” and hands-on activities to present community data, solicit input, and help citizens envision a new future for the community. NewCities distills this information into a set of core values for the community, from which a set of recommendations and strategic plan is developed.

The NewCities Institute believes that by engaging citizens on vital issues – by listening to them and creating strategies that correspond with their collective vision balanced with their community values – communities are better equipped to meet the competitive challenges of the global economy. Past experience shows that this innovative approach to workforce and economic development is successful, as illustrated by the following examples.

In 2005 NewCities partnered with the community of Moscow, Idaho. After listening to more than 1,000 residents of Moscow, the NewCities Institute crafted several strategies that became a framework for addressing issues identified by Moscow residents. The most unique and innovative recommendation from the NewCities Institute for improving workforce and economic development was to create the Palouse Knowledge Corridor.

The Palouse Knowledge Corridor now has seven business clusters and an array of infrastructure amenities as part of the regional offerings around the research and technologies developed by the University of Idaho and nearby Washington State University, thus emphasizing Moscow’s ability to tap into area postsecondary resources. The success of the Palouse Knowledge Corridor has been recognized by the Inland Northwest Partners for its workforce and economic development efforts in the Inland Northwest. The subsequent success of NewCity Moscow and the creation of the Palouse Knowledge Corridor are documented at [www.palouseknowledgecorridor.com](http://www.palouseknowledgecorridor.com). From the development of business and research clusters to securing more than \$15 million in research funding, the Palouse Knowledge Corridor is a testament to the power of collaboration and innovation.

During the time NewCities worked with the leaders in Moscow an unanticipated outcome was to learn that the residents of the community did not feel they got enough communication from their elected officials. The development of a communication plan became one of the three key areas for the city to address. The plan established several goals and the recommendations were adopted and implemented by the city.

On May 19, 2007, in the quiet community of Moscow, Idaho, where no one ever thought it could happen, a sniper took aim at law enforcement officers – ambushing them outside their

headquarters in downtown Moscow. When NewCity staff members called to extend their condolences, Linda Pall – President of the Moscow City Council – noted that city leaders had used the communication tools put into place during the NewCity Moscow initiative to communicate with their citizens during the crisis. The city government was able to keep the public informed about the situation, provide safety information, and bring a degree of comfort to Moscow’s citizens during a horrific situation. Unfortunately, three people lost their lives. Fortunately, Moscow had a plan and utilized it. This is a good example of unanticipated consequences from a community that took some intentional steps to engage their citizens.

Another example is NewCity Morehead, launched in April 2006 in Morehead, Kentucky. More than 800 residents and civic leaders met at community forums to discuss their values and express their hopes and fears. After sifting through the comments, NewCities found that Morehead residents valued specific characteristics that already flourished in Morehead or could be built upon. NewCities incorporated citizens’ ideas for workforce and economic development strategies into its recommendations and strategies for the community. The recommendations focused on 21st century economic development, increasing government efficiency, planning for countywide growth and preservation, getting serious about “green” initiatives to protect the environment, communicating the community’s vision to the public and continuing to listen to the people.

As a result of the NewCity Morehead Initiative, Morehead and Rowan County have achieved remarkable success on its short-term goals such as entrance beautification, signage and street light improvement. In line with its long-term goals, the city has begun working with Morehead State University, St. Claire Medical Center, University of Kentucky and the University of Louisville to develop ongoing projects and partnerships.

Additional success stories about the work accomplished through the NewCities process in the Kentucky communities of Madisonville, Inez, and Harlan may be found in Appendix 2. Further, a listing of publications sponsored by the NewCities Institute may be found in Appendix 3.

### *The Partnership for Successful Schools*

The Partnership for Successful Schools was established in 1991 by executives of Kentucky’s three largest private sector employers<sup>2</sup> on behalf of the Business Roundtable, with the goal of supporting school improvement in Kentucky. Since that time, the Partnership has supported research, policy development, and public information campaigns and has worked directly with schools and school districts to improve student achievement. For example, Appendix 3 features a listing of Partnership-sponsored research and publications on Kentucky school improvement efforts, including teacher professional development, state intervention in low performing schools, characteristics of high-performing schools, and community engagement with schools (David, Coe, & Kannapel, 2003a, 2003b; Kannapel, 2007; Kannapel & Clements, 2009).

The Partnership has been thoughtful in ensuring that research findings are shared with appropriate audiences in ways that are designed to influence policy and practice. For instance, implications of the Partnership’s research are often disseminated in the form of “protocols” that

---

<sup>2</sup> The lead employers were Ashland Oil, Humana, and United Parcel Service (UPS).

will enable schools or communities to build on lessons learned from the research. (See Appendix 4 titled “Lessons Learned” for an example.)

Another way in which the Partnership has shared its research has been through research and policy roundtable discussions in which policymakers and researchers spend a half-day together discussing findings of the Partnership’s research. The roundtables ensure that the research findings would be shared with the appropriate policy audience. They also serve as a quality control measure for the research by providing feedback on research design, findings, and interpretations – as well as a sounding board for how the findings and implications were or were not understood. Most importantly, the roundtables brought together people who seldom sat in the same room to learn from one another and in the process, broaden the knowledge base of those delivering, supporting, and studying education in Kentucky.

The Partnership has also delivered hands-on support for increasing student learning. In the early 2000s the Partnership worked closely with eight schools from across the state to help each school identify its goals, determine which goals they could meet with their own resources, and then engage the community in filling the gaps. As a precursor to that work, the Partnership provided training to 30 potential local leaders on how to facilitate community conversations. From this group, a site coordinator was hired who resided in or near each of the eight communities, and who was respected in the community. These site coordinators served as the link among the school, the community, and the Partnership.

The Partnership has developed a unique tutoring program entitled *One to One: Practicing Reading with Students* in which community volunteers commit to providing 30 minutes of one-to-one reading practice with students for a minimum of 16 weeks. The Partnership assists in recruiting and training reading coaches and provides materials and a structure for the reading sessions. This program is active in numerous communities across Kentucky. (See Appendix 5 for more information.)

Another example of the Partnership’s hands-on support for improved student learning is the *Kentucky Scholars Initiative*. This program encourages students to take a more rigorous course of study in high school to prepare them to meet today’s workplace and education expectations. (See Appendix 6 for more information.)

Based on current research that reinforces what employers and educators are saying about today’s students not having the necessary math skills to function successfully in the work place or in postsecondary settings, the Partnership has developed a program that builds greater mathematics competencies for students in grades K-4. *Math Matters* is an initiative that builds on the instructional program already in place in Kentucky’s schools, but provides additional support and practice from trained coaches who represent community leadership. (See Appendix 7 for more information.)

Throughout its existence, the Partnership’s efforts have been based on the belief that the education of all students is everyone’s business. The goal has been to create a culture in which an entire community accepts responsibility for, and takes action to produce, well-educated citizens.

### *The Merger: Partnership at NewCities*

The merger of the Partnership for Successful Schools with the NewCities Institute was strategic for both organizations. NewCities recognized that its development work had not penetrated the education systems of the communities it was serving. Yet the quality of these school systems was critically important to the quality of life in the given community. In the meantime, the Partnership had focused on student achievement efforts, but had done so with only modest involvement of the social and workforce/business sectors of the communities in which its school partners resided. At the same time, both organizations were highly skilled at facilitating conversations among people and groups who were not accustomed to being at the table together—and turning those conversations into plans and actions to effect change. However, past facilitation experiences for the two organizations had been in different arenas.

The leaders of the two organizations realized that they could strengthen and intensify their efforts by becoming allies to engage entire communities in revitalizing themselves, beginning with the education of local citizens. With the understanding that better education equals economic growth, Appendix 8, features a fact sheet reflecting the purpose and mission of the Partnership at NewCities, spelling out the rationale behind this effort to combine forces to improve Kentucky.

An early result of these combined efforts was the publication of research conducted by the Partnership, *School – Community Engagement: Success and Challenges*. This “how-to” guide which may be found in Appendix 9, details successful and powerful school-community alliances in Northern Kentucky as well as Owensboro that are focused on improving student achievement.

Since the merger and proving that the methodology will work, leaders from the combined organizations have worked diligently to craft a method for incorporating the education focus of the Partnership with the development process utilized by NewCities. A result is the concept of the *Leadership Communities*, which is sketched below. The educational emphasis that is central to this concept will enhance the economic and social development planning that is already a part of the 12 principles process used by NewCities in its previous work. It is noteworthy that this plan also includes a significant element for research and policy development so that the work can be documented and analyzed, producing recommendations and guidelines that other communities might use to replicate the successes achieved through this very significant social learning effort.

### *Additional Partners*

The work that the Partnership at NewCities proposes to do herein will be enhanced and supported by partnerships with external organizations. For instance, in 2005 a partnership was formed between the NewCities Institute and the Kentucky Community and Technical College System (KCTCS), which consists of 16 colleges and 65 campuses across the state. The goal of the partnership is to “raise the bar of civic engagement for the entire Commonwealth of Kentucky.”

A memorandum of understanding between NewCities and KCTCS focuses on several areas to accomplish this goal including the creation of Leadership KCTCS, utilizing KCTCS facilities as “safe harbors” for local and regional meetings to discuss difficult issues, research activities, creation of curriculum modules, utilizing KCTCS technology to more efficiently deliver training and education courses to mayors and other elected officials, and host symposia on a wide-range of community and regional topics focusing on community and economic development. This partnership can be utilized in the *Leadership Communities* proposed here. For instance, community meetings and receptions might be hosted at KCTCS facilities utilizing available technology to enhance the presentation and dissemination of information to citizens.

Other important partnerships initiated during 2005 included the creation of the *City Solutions Center* with the University of Louisville. NewCities and U of L will collaborate to solve some of the most critical problems facing Kentucky’s cities utilizing the research capacity of the university. In the context of this proposal, the *City Solutions Center* could help accumulate data on the participating communities and track quality of life indicators over time.

Another important partnership emerged in 2007 when the *Kentucky Sustainability Institute* was formed between the NewCities Institute, the Kentucky Energy and Environment Cabinet – Division of Compliance Assistance, and the Kentucky League of Cities. This partnership was established to promote the “greening” of the Commonwealth through education and resources.

The mission of this partnership is to teach municipal and county leaders, community groups, and citizens about sustainable development techniques including Brownfield redevelopment, smart growth strategies and green building practices. The intent is to actively involve Kentucky’s leaders and citizens in the future planning of their communities and to inform them of programs and services that can aid them in sustainably growing and redeveloping their community in a manner that protects the environment, people’s health and the economic well-being of the community.

The strategy of the *Kentucky Sustainability Institute* is to provide participants with knowledge that can be shared, discussed and eventually incorporated into community planning. The institute and its partners have developed curriculum and materials for training workshops as well as additional online materials to help participants further explore environmental issues that are of particular interest to their community. One area of particular interest is to offer environmental charrettes or community building session for local communities.

*The Kentucky Sustainability Institute* partners are providing environmental resources that include:

- Complete Green Tool Box
- Resource Data and Contact Information
- A ‘Green’ Dictionary
- Citizen Green Questions
- *Kentucky Sustainable Institute* Green Tool for Elected Officials
- Frequently Asked Questions

The Green Tool Kit, updated information and additional resources published by the *Kentucky Sustainability Institute* may be accessed at [www.kysi.org](http://www.kysi.org) or from the NewCities website at [www.NewCities.org](http://www.NewCities.org).

Another partner that has been integral to the ongoing success of the Partnership at NewCities is the Kentucky League of Cities. Since the inception of the NewCities Institute and the 12 principles, the city officials of Kentucky have been the primary customer focus for services, particularly in the area of leadership education. NewCities has a notable history of co-developing and providing the curricula for the *City Officials Academy* and the *City Officials Orientation* via the KLC Leadership Training Center. These bi-annual training initiatives are foundational for ordinary citizens who have stepped up to the plate of local elected leadership. There is no other training available in Kentucky exclusively focused on this commitment of public service.

Additionally, NewCities provides in-depth training to city staff and elected officials throughout the year in workshops and conferences. This educational programming covers a variety of topics including economic and community development, planning, zoning, visioning, grant writing, leadership development, communication and the environment.

We have learned in our previous work in communities that in addition to these formal partnerships there will be natural informal partnership systems already in place within these leadership communities. Those may include leaders from government, faith-based organizations, business associations, agricultural extension and cooperative offices, local planners, media, medical entities and many others.

## **The Leadership Communities Project**

### **The Communities:**

Fifteen communities have expressed interest in participating in this new process to become *Leadership Communities*. The Partnership at NewCities proposes to work with five of these communities per year in each of three successive years. Each community has committed to allow the Partnership at NewCities to facilitate an enhanced civic engagement process that will place educational improvement efforts at the forefront of community development efforts. Each participating community has agreed in advance to work in partnership with local schools to facilitate the school systems' goal of accelerating student achievement in reading, mathematics, and science; to encourage rigorous academic coursework for all students; and to link high school coursework and supporting activities more firmly than ever before to area businesses, industries, and higher education institutions. On the following page, Table 1 lists the 15 potential communities, the school districts within each that have committed to participating, higher education institutions that would be involved with the work, and the number of citizens and students that will be potentially impacted by this work.

Region	County	Major City	Participating School Districts	Higher Education	Population Impacted	Students Impacted
East	Madison	Richmond	Madison County Schools Berea Independent Schools	Eastern KY University Berea College	70,872	10,848
East	Martin	Inez	Martin County Schools	Big Sandy CTC	12,578	2,281
East	Rowan	Morehead	Rowan County Schools	Morehead State University	22,094	3,213
North	Kenton	Covington	Covington Independent	Northern Kentucky University and Gateway CTC	151,464	13,878
Central	Anderson	Lawrenceburg	Anderson County Schools	Kentucky State and Bluegrass CTC	19,111	3,919
Central	Boyle	Danville	Danville Independent	Centre College	27,697	2,717
Central	Clark	Winchester	Clark County Schools	Bluegrass CTC	33,144	5,637
Central	Jessamine	Nicholasville	Jessamine County Schools	Asbury University	39,041	7,651
Central	Marion	Lebanon	Marion County Schools	Somerset CTC	18,215	3,188
Central	Taylor	Campbellsville	Campbellsville Independent	Campbellsville University and Somerset CTC	22,924	2,686
West	Calloway	Murray	Calloway County Schools	Murray State University	34,177	3,184
West	Christian	Hopkinsville	Christian County Schools	Hopkinsville CTC	72,308	9,547
West	Hopkins	Madisonville	Hopkins County Schools	Madisonville CTC	46,517	7,083
West	McCracken	Paducah	McCracken Co. Schools Paducah Independent	West KY CTC	65,514	7,342
West	Warren	Bowling Green	Bowling Green Independent Warren County Schools	Western Kentucky University	92,522	13,160
<b>Total</b>					<b>728,178</b>	<b>91,334</b>

**Table 1: 15 Potential Leadership Communities**

As shown in the table, the 15 communities represent a range of regions and sizes across Kentucky. The Partnership at NewCities believes that involving these diverse communities in the work will provide the opportunity to develop and refine the process for communities that face many diverse challenges. It will also demonstrate the effectiveness of the process in a variety of communities. We anticipate that this work will impact more than 700,000 citizens and more than 90,000 students across the Commonwealth with the intentional focus on education as it relates to workforce development.

Some of the communities listed above encompass more than one public school system. In those communities, every attempt has been made to enlist the participation of all school systems in this work. However, in a few places the Partnership at NewCities has not yet secured commitments from all school systems. In these communities, the Partnership will continue to encourage participation from all school systems. It is also anticipated that local media attention to the project will provide an incentive for all school systems to participate.

## **Leadership Qualities**

*“When the rate of change outside an organization is greater than the rate of change inside, the continuing existence of that organization is threatened,”* according to Philip Schlechty, founder and chief executive officer of the Center for Leadership in School Reform and the best-selling author of Inventing Better Schools, Schools for the 21<sup>st</sup> Century.

With the economic climate of today, innovative and effective leadership is essential at all levels of government and community. Community leaders are under intense pressure to develop new solutions for challenges that include financial insecurity, neighborhood violence, an enduring educational achievement gap, high dropout rates, and low youth employment rates.

A major shift has occurred in moving from a society in which the place where one lives and one’s sense of community was highly correlated to a society in which one’s sense of community is determined more by one’s interest group, place of work, and race and ethnic identity. This major shift calls for a new brand of leadership that transcends age and typical experience of local leaders.

Leaders in communities across Kentucky are demonstrating a broad range of innovations in raising the levels of prosperity and quality of life. It is evident that these leaders have a common set of leadership capacities that intensify and enhance the work they are fostering and creating results that are needed if the health of the community is to improve.

These observable and measurable leadership characteristics include:

- Demonstrating visionary capacity that transcends everyday difficulties while communicating in concrete language what strategic goals look like in real-life situations. Goals without vision produce little outcomes.
- Articulating a clear operational plan that enables employees/citizens to move forward even in the face of putting in place some strategies on a temporary basis for the purpose of figuring out what the long-term work should be to get to the vision and goals.

- Promoting regular communication and constantly asking others' opinions while teaching a better understanding of where the organization is going.
- Encouraging communication to always be about the work and a willingness to adjust the vision and goals rather than a focus on momentary crises.
- Focusing on the question of "How can we make this effort more productive?" and working from the perspective of "We are not there yet, how can we move forward?"
- Constantly reminding staff and other workers that the leader wants to be part of the work while setting the norm for how people will act who work together to achieve the vision.
- Utilizing the power of convening the right people to do the work.
- Using multiple communication tools to help recruit, mobilize, train and report on outcomes of community work.

For a step-by-step guide on the actions a community leader can take within their community, please see a four-step strategy and a recommended leadership training module in Appendix 11.

## **The Partnership at NewCities Process**

The Partnership at NewCities proposes to implement an enhanced version of the NewCities process in each of the 15 communities. This process will include the community's educational sector more centrally than was the case for the original NewCities process while continuing to engage the commercial, educational, social and governmental sectors. This new process is described below.

### ***Step 1: Engage and Empower***

During this initial step, there may be as many as three to four contact points with the community. Before meeting with community leaders, Partnership at NewCities will compile important social, economic, and educational data (i.e. quality of life indicators) on the community. Examples of the Case Study Protocol, a community assessment tool, and other important community indicators are found in Appendix 12. These indicators will include data on educational attainment levels of the citizens, employment rates, average income, primary occupations of citizens, student achievement levels in core content areas, graduate and dropout rates for area high schools, and percentage of students attending and completing post-secondary education programs.

Armed with these data, the Partnership at NewCities will meet with the mayor, county judge-executive, school superintendent and other key leaders whose participation is viewed as essential to moving the work forward. In these meetings, the Partnership at NewCities will share the local data, discuss the Partnership at NewCities process, and secure the leaders' commitment to move the process to the next level. This initial meeting may be followed by a brief presentation and discussion with governing bodies that the above leaders represent – the city council, school board, county commissioners and others.

Once these leaders have agreed to participate, the Partnership at NewCities will bring together at a central location key leaders in the community for a three-hour meeting. This group will include

those leaders mentioned above as well as presidents of area higher education institutions, student organizations at area colleges and high schools, chambers of commerce and executives from area businesses and major employers, along with influential people such as ministers, newspaper editors and other community leaders.

The Partnership at NewCities will again share local data; facilitate discussion of the vision, goals, and processes of civic engagement and strategic improvement; and articulate how local leadership can be involved in the process. A media toolkit will be shared with the group that includes templates for email invitations, public service announcements, newsletter inserts and other media that community leaders can use to publicize events associated with the strategic planning process. At the conclusion of the meeting, this group will be asked to identify other constituents from the community who should be involved in these discussions.

An additional meeting may then be held similar to the first in terms of sharing data and explaining the vision, goals, and process of strategic improvement, but it would focus on bringing the individuals who were not part of the initial session up to speed. The Partnership at NewCities will facilitate a discussion aimed at formulating a community assessment and establishing a timeline for the work to be accomplished.

### ***Step 2: Listen***

In Step 2, the Partnership at NewCities will facilitate a series of widely publicized listening sessions, held in different geographic locations across the community to facilitate participation of the most diverse audience possible. Transparency and accessibility are of utmost importance during this step of the process. The Partnership at NewCities will facilitate use of the media toolkit provided to community leaders so that the public is well-informed about the listening sessions. As in the engagement sessions, the Partnership at NewCities will present data on the community, then invite input on areas of need and how citizens think the quality of life in the community might be improved. All comments will be recorded in real-time and projected onto a large screen for the audience to see. Immediately following the meeting, these comments will be uploaded onto the Partnership at NewCities website so that they may be reviewed by participants and residents who did not participate.

### ***Step 3: Core Values***

Following the community listening sessions, the Partnership at NewCities will analyze the raw comments and identify common threads that represent the community's core values as expressed by participants in the process. The core values are the foundation of the long-range strategies, goals, and objectives for the community. The Partnership at NewCities believes that success of this work is more likely if goals are established based upon the deep-rooted culture of the community and the desires of the residents, not on current trends or popular concepts. These core values that have been distilled from earlier conversations will be presented to citizens during Step 4.

### ***Step 4: Envision***

The Partnership at NewCities will facilitate one or two community-building sessions, also known as charrettes, at which citizens begin constructing a joint vision of the community's future. The

media toolkit will be used to ensure that the public is informed about the charrettes. At the charrettes, participants will be divided into groups and provided with the core values identified by the Partnership at NewCities, as well as with city and county maps and dream books that contain images intended to spark participants' thinking about their hopes for the community. The dream books might include a variety of images of attractive downtown areas, descriptions of how a more diverse community might function, images and descriptions of what high quality schools look like, and ideas for how local institutions might behave differently. Citizens will be encouraged to meld images from the dream book with the maps by drawing, coloring and placing concepts on the maps.

Attendees will share their group's concepts with other attendees. The Partnership at NewCities will then collect written comments and maps from the groups to develop concise preliminary strategies that include the community's core values as well as suggestions and images generated by the charrettes.

The preliminary strategies will be shared at a community reception in an open house format—again publicized using tools from the media toolkit. At this event, three to four stations will be set up, each including storyboards displaying the preliminary strategies developed jointly with the community as well as images of the community's future. Residents may drop by, review the preliminary strategies, and give feedback on the extent to which the strategies effectively capture community sentiment. Extra copies of the strategies will be made available for attendees to share with other community members as well as posting on the NewCities website.

Based on feedback from the community reception, the Partnership at NewCities will revise the strategies and develop a set of recommendations for the community.

***Step 5: Innovate and Act***

At this point in the process, the Partnership at NewCities will share the revised strategies and proposed recommendations with the original group of community leaders. If any changes are needed after their review, another revision of the strategies and recommendations will be submitted. As the strategies and recommendations are to be implemented, the Partnership at NewCities will suggest an ongoing leadership structure to enable the community to begin taking action. Staff will also help leaders incorporate measurable outcomes as well as structures for evaluating progress toward goals.

When consensus is reached that the strategies and recommendations are ready for presenting to the overall community, a community forum will be publicized using tools from the media toolkit. Community leaders, supported by the Partnership at NewCities, will present the strategies and recommendations to the public, and the Partnership at NewCities will facilitate a conversation designed to lead the community into the implementation stage. While each community will handle the implementation strategy in their own way, the Partnership at NewCities will provide suggestions and concepts that can easily be implemented with any community.

***Step 6: Evaluate, Share and Refine***

Between the implementation of the work and the first follow-up with each city, the Partnership will host a gathering of leaders from each of the leadership communities. These sessions are intended to encourage discussion of success and opportunities within each community, sharing concerns, ideas, and best practices, while providing data to assist in refining the overall process. Led by the Partnership at NewCities, these meetings will enable researchers to document, analyze, and evaluate the communities' work.

At six-, 12-, and 18-month intervals after completion of the initial phase of the project, the Partnership at NewCities will return to the community for follow-up meetings to discuss the status of strategic plan implementation and troubleshoot problems that have been encountered. The measurable outcomes and evaluation measures will be reviewed and adjustments made as needed. Staff will also debrief with community representatives about which aspects of the process functioned effectively and which could use improvement.

The steps described above outline a process that NewCities has used with some success in the past. But, it is important to note that the focus of this project will be on what the steps are meant to accomplish—a well-thought-out strategy for community improvement based on data about the community's current status as well as the community's core values. Some steps may not play out precisely as described, but they provide a framework for achieving the goal of strategic thinking, planning, and implementation to improve the quality of life in the community. The Partnership at NewCities will work closely with each leadership community to determine how this process can best be tailored to meet the needs of that individual community.

**Products and Outcomes**

The work in each leadership community will result in a number of products that each community may use as it moves forward to create a new future. This will include a collection of key data on quality of life indicators, an archive of community members' comments and concerns, and a final report from the Partnership at NewCities that summarizes the community's core values and visions and makes recommendations for the future. The most significant product will be the strategic plan that the community develops in conjunction with the Partnership. This will serve as a working document that is being continually referenced and refined as the community implements the plan.

The Partnership at NewCities anticipates that implementation of the strategies and recommendations will create new activities, cultural landscapes, and ways of thinking about what citizens can do to improve the quality of life within the community. Possible activities might include partnerships between high schools, community colleges and local employers in which students do internships at local businesses and/or business leaders teach mini-courses at the educational institutions. A community-wide reading and/or mathematics tutoring program might be instituted to engage the community in supporting higher levels of student learning. High school and college students and faculty might be enlisted to implement key portions of the

strategic plan, such as creating green spaces in the city or conducting research on issues identified by the community. The possibilities are limitless when various sectors of the society work together, but what these activities will actually be will depend on the needs and dreams identified through the Partnership at NewCities process.

## **Measures of Success**

The Partnership at NewCities will prepare for the leadership communities an evaluation instrument that will provide “pre-intervention” social, economic, and educational data on the communities at the point at which they began the Partnership at NewCities process. The instrument will include columns for annual updates for the next five years so that communities can document changes in these indicators.

At the same time, the leadership communities will have included in their strategic plans short-term evaluation indicators and timelines for monitoring and evaluating the success of specific goals and activities included in the plan. When the Partnership at NewCities makes follow-up visits, these tools will be used to help community leaders evaluate their progress. At each of these evaluation points, community leaders will be encouraged to use tools in the media toolkit to keep the public informed about how implementation of the strategic plan is progressing.

Examples of measurement tools created and previously implemented by the NewCities Institute may be seen in Appendix 13. The first example, “The NewCities Community Scorecard,” is a tool developed in conjunction with Morehead State University’s Institute for Regional Analysis and Public Policy. The second example, “Are You New?,” is a community assessment tool created by the NewCities Institute. The third example, “Green Tool Kit - Self-Assessment Tool,” was developed in partnership with the Kentucky Energy and Environment Cabinet – Division of Compliance Assistance, and the Kentucky League of Cities.

## **Timelines**

The Partnership at NewCities (PNC) proposes to implement this work in three phases to correspond to the three years of the project. During Phase I (year one), Partnership at New Cities staff will work in five communities. Each year, five more communities will be phased into the work, as staff continues to periodically visit and monitor communities where the work was begun the prior year. The phase-in process will keep the work manageable for the Partnership at NewCities and provide time to refine the process each successive year. The anticipated timeline is shown below:

### **Year One**

- Months 1-3    Work in five communities to engage key leaders, facilitate listening sessions and charrettes
- Months 3-4    PNC develops preliminary strategies, holds community reception to share and get feedback
- Months 5-6    PNC develops final strategies and recommendations; shares with community leaders and provides suggestions on implementation strategies
- Months 6-8    PNC brings together participating community leaders to evaluate, share, and refine the process
- Months 9-12    Community implements strategies and recommendations and PNC staff checks in to debrief and assist with problem areas

**Year Two:**    The same timeline as shown above will be implemented in the second cohort of five communities. At the same time, PNC will make return visits to the first cohort of communities in months 6 and 12 of Year Two.

**Year Three:**    The same timeline as shown above will be implemented in the third cohort of five communities. At the same time, PNC will make return visits to the first and second cohorts of communities in months 6 and 12 of Year Three.

## Research and Evaluation

Projects such as *Leadership Communities* described above often contain a modest evaluation component, involving perhaps a survey of participants and the collection and analysis of outcomes data. However, this proposal includes a substantial research effort to document, analyze, and evaluate the work of *Leadership Communities*. The research component of this proposal also includes a series of policy and research roundtables, such as those described earlier that have been used successfully by the Partnership for Successful Schools. (See Appendix 14 for a sample.) The roundtables will bring together a broader circle of research and policy experts to discuss and refine the findings of the research team. These will serve as a tool to expand the influence of the *Leadership Communities* project well beyond the circle of those immediately involved.

A significant research element is warranted because few broad-ranging initiatives like that of the *Leadership Communities* have been implemented or investigated systematically. Indeed, we have found no examples of the kind of in-depth education-community partnerships that the Partnership at NewCities is proposing to create—and scant research on efforts to link educational improvement with community development. Our proposal includes a research component to document and share lessons learned from the innovative *Leadership Communities* initiative. The research will serve the additional purpose of providing formative feedback to the Partnership at NewCities on how the work is progressing and potential areas where refinement is needed.

The goal of the research will be to describe, assess, and evaluate the *Leadership Communities* work in terms of who is involved, what goals are identified, and what outcomes result. The results will be shared in the form of case studies of selected communities that are participating in this project. Specific questions the cases will address include:

1. What organizational structure is created in each leadership community to lead and manage the work?
2. What stakeholder groups are represented in the effort?
3. What goals are set for the work?
4. What activities are identified to reach the goals?
5. How are the activities implemented, and by whom?
6. How is the work monitored and/or evaluated?
7. What helps or hinders the work?
8. What are the outcomes of the work?
9. What are the prospects for the future of the work in each leadership community?
10. What are the key lessons learned from this effort that might be informative to other communities?
11. What are common issues, problems, themes and lessons learned across the cases?

Because the focus of the research will be on exploring and describing improvement efforts in each leadership community as well as the perceptions and experiences of stakeholders involved

in the efforts, the research will rely heavily on qualitative research methods. Such methods are well-suited to developing the case studies that will be the final product of the research. Because multiple communities will be studied, this research could be characterized as a “collective case study” (Stake, 1994) in which a number of cases are studied jointly to inquire into a specific phenomenon—in this instance, engaging community and school leaders in community development improvement planning. Not only will the researchers develop individual case studies pertinent to each leadership community, but they will conduct cross-case analyses to develop a protocol for community engagement that shares the lessons learned from the research. It is hoped that this protocol will be of use to other communities that wish to engage in similar work.

The use of multiple cases and cross-case analyses will build a rich theoretical framework for understanding how communities and school districts can work together to improve schools (Yin, 2003). Case studies can incorporate a variety of research strategies. This research will include multi-method data collection activities that encompass multiple perspectives, which will enable the researchers to triangulate the data (Janesick, 1994). Anticipated methods are described below.

## **Methods**

*Interviews:* Interviews will be conducted with key leaders from the Partnership at NewCities to gain perspective on the goals and strategies of the work. Interviews will also be conducted with key leaders in the local communities who are involved in the community engagement effort, possibly including mayors, county judge-executives, school superintendents, key business leaders, leaders of local media outlets, and representatives from non-profit organizations. Focus group interviews may be conducted in local communities in which a large number of stakeholders are involved in and/or affected by the effort. In these cases, it is likely that the focus groups would be organized to represent the views of a particular stakeholder group; for instance, a focus group of school principals, a focus group of local elected officials, or a focus group of local business leaders.

*Observations:* Observations will be conducted of planning and implementation meetings conducted within the local communities—or of activities planned and carried out by the organizational body that heads up the work in local communities. Examples would include planning meetings of the organization, community forums to inform the community and enlist their support, and school board/city council meetings at which the work is discussed. Additional observations will be made during the joint meetings to be held with leaders from each of the communities as implementation gets underway.

*Document Review:* A variety of records and documents pertinent to each leadership community will be reviewed as part of the research, including minutes of key meetings, local newspapers stories, and planning documents produced as each community crafts its improvement plan. The key quality of life indicators that the communities are themselves using to launch and monitor their work will be tracked by the research team.

The bulk of these research activities will be conducted with the first cohort of five communities that begin the work in Year 1. Focusing on this group will enable the researchers to document the implementation and outcomes of the Partnership at NewCities process for a three-year period. At the same time, the research team will obtain information from the Partnership at NewCities and with key leaders in communities in Phases II and III to document how the process is refined over time. Key data indicators will be gathered on all 15 communities throughout the research period.

## **Data Analysis and Reporting**

Prior to conducting the research, the research team will develop a case study outline that will reflect the key research questions listed above. As data are collected, the data from each community will be sorted into categories that correspond to the case study outline. At six-month intervals, the researchers will summarize what has been learned in each category and meet with the Partnership at NewCities to provide formative feedback on how the work is progressing.

At or near the conclusion of the first year of the work, each of two researchers will independently review the categorized data and compile a set of key findings to be included in each case. The cases will then be assigned to one of the two researchers to compose. After the case studies are written, a policy and research roundtable (more details in next section) will be held to obtain feedback on the work of the leadership communities, using the cases to guide discussion. Input will be gathered as to preliminary lessons learned from these communities' experiences that might be informative for similar communities.

Input from the policy and research roundtables will be considered in the next step of analysis, which will be a cross-case analysis in which the two members of the research team, plus an external researcher, review each case independently and compile a set of tentative lessons learned. The three researchers will then meet to agree on the final set of lessons learned and outline a protocol for community engagement in schools. These lessons learned and a draft protocol will be shared at a policy and research roundtable for feedback and discussion.

The cases will be updated annually and periodically shared, along with general information about the work of the leadership communities, at the policy and research roundtables. The final product of this research will be a set of case studies, a protocol for community engagement in educational attainment, and an evaluation report on the overall success of the project.

## **Policy and Research Roundtables**

To augment the research component of this project, we also propose to conduct a series of four policy and research roundtables, over the course of the three-year project. Each roundtable will provide an opportunity to convene a hybrid group of state leaders in both the research and policy fields pertinent to the *Leadership Communities* project—in this case education, rural and community development, and leadership—to discuss the progress of the initiative with researchers and the Partnership at NewCities focusing on the project.

One goal will be to present to roundtable members progress reports on the *Leadership Communities* efforts in each location, as well as updates on the ongoing research investigation. This will alert a much broader swath of players in Kentucky's policy community about the project, possibly leading to plans to replicate the project in new communities. It will serve as a forum to critique the research approach being pursued and the data being gathered.

A second goal will be to identify other leaders and decision-makers who should participate in subsequent roundtable events. As the project nears completion, roundtable participants may be called upon to review drafts of reports and determine if adjustments might be needed in research design or policy recommendations. As noted, these forums have served the Partnership for Successful Schools well for many years, and we expect they will continue to do so for the Partnership at NewCities.

## References

- Christman, J. B. & Rhodes, A. (2002). *Civic engagement and urban school improvement: Hard-to-learn lessons from Philadelphia*. Philadelphia, PA: Research for Action.
- Clements, S.K. (1998). *The Changing Face of Common Schooling: The Politics of the Kentucky Education Reform Act of 1990*. Doctoral dissertation, Department of Political Science, University of Chicago.
- David, J. L., Coe, P., & Kannapel, P. J. (2003a). *Content-focused professional development in Kentucky: A study of the middle-school summer academies*. Lexington, KY: Partnership for Kentucky Schools.
- David, J. L., Coe, P., & Kannapel, P. J. (2003b). *Improving low-performing schools: A study of Kentucky's Highly Skilled Educator program*. Lexington, KY: Partnership for Kentucky Schools.
- Hess, G. A., Jr. (1991). *School restructuring, Chicago style*. Newbury Park, CA: Corwin Press, Inc.
- Janesick, V. J. (1994). The dance of qualitative research design: Metaphor, methodology, and meaning. In *Handbook of Qualitative Research*, N. K. Denzin & Y. S. Lincoln, Eds., pp. 209-219. Thousand Oaks, CA: SAGE Publications.
- Kannapel, Patricia J. (2007). *Creating an environment for student success: The elements of a strong school culture*. Lexington, KY: Partnership for Successful Schools.
- Kannapel, P. J. & Clements, S. K. (2009). *School-community engagement: Successes and challenges*. Lexington, KY: Partnership at NewCities.
- Lovely, Sylvia L. (2007) *The Little Red Book of Everyday Heroes*. Lexington, KY: The Clark Group
- McTaggart, R. (1991). Principles for participatory action research. *Adult Education Quarterly*, 41 (3): 168-187.
- Partnership for Successful Schools. *Engaging schools and their communities in accelerating student achievement: Report on the Partnership Schools Initiative*, Unpublished report, Oct. 2004. Lexington, Kentucky: Partnership for Successful Schools.
- Sarason, S. B. (1995). *Parental involvement and the political principle: Why the existing governance structure of schools should be abolished*. San Francisco, CA: Jossey-Bass Publishers.

- Stake, R. E. (1994). Case studies. In *Handbook of Qualitative Research*, N. K. Denzin & Y. S. Lincoln, Eds., pp. 236-247. Thousand Oaks, CA: SAGE Publications.
- Tyack, D. B. (1974). *The One Best System: A History of American Urban Education*. Cambridge: Harvard University Press.
- Tyack, D. B. & Hansot, E. (1982). *Managers of virtue: Public school leadership in America, 1820-1980*. New York: Basic Books.
- Van Willigen, J. (1993). *Applied Anthropology: An introduction*. Westport, CT: Bergin & Garvey.
- Weise, R. & Murphy, J. (1995). SBDM in historical perspective: The community control movement, 1965-1975. In *School-based management as school reform: Taking stock*. J. Murphy & L. G. Beck, Eds. Pp. 116-130. Thousand Oaks, CA: Corwin Press, Inc.
- Whyte, W. F., Greenwood, D. J. & Lazes, P. (1989). Participatory action research: Through practice to science in social research. In *Participatory Action Research*, W. F. Whyte, Ed. Pp. 19-55. Thousand Oaks, CA: SAGE Publications.
- Yin, R. K. (2003). Case student research: Design and methods (3<sup>rd</sup> ed.). *Applied Social Research Methods Series* (Vol. 5). Thousand Oaks, CA: Sage.

*Be it enacted by the General Assembly of the Commonwealth of Kentucky:*

**C. DEPARTMENT OF EDUCATION**

**Budget Units**

**1. EXECUTIVE POLICY AND MANAGEMENT**

	<b>2010-11</b>	<b>2011-12</b>
General Fund	3,102,600	596,500

**(1) Employment of Personnel:** Notwithstanding KRS 18A.115, the Department of Education may fill, through memoranda of agreement, not more than 50 percent of its existing authorized positions below the division director level with individuals employed as school administrators and educators in Kentucky.

**(2) Employment of Leadership Personnel:** Notwithstanding KRS 18A.005 to 18A.200, the Kentucky Board of Education shall continue to have sole authority to determine the employees of the Department of Education who are exempt from the classified service and to set their compensation comparable to the competitive market.

**(3) Review of the Classification of Primary and Secondary School Buildings:** Included in the above General Fund appropriation is \$2,500,000 in fiscal year 2010-2011 to be used to select a third-party consultant through a Request for Proposal (RFP) to conduct a comprehensive review of the classification of primary and secondary school buildings in the Commonwealth. These funds shall be used for the procurement and actual services of the consultant. In addition, the Department of Education may assign appropriate staff and/or an appropriate committee to manage and assist the consultant and to facilitate the process.

**2. OPERATIONS AND SUPPORT SERVICES**

	<b>2010-11</b>	<b>2011-12</b>
General Fund	41,745,400	41,206,400
Restricted Funds	2,243,600	2,269,300
Federal Funds	16,027,800	10,527,800

TOTAL	60,016,800	54,003,500
-------	------------	------------

**(1) School Technology in Coal Counties:** Notwithstanding KRS 42.4588(2) and (4), included in the above General Fund appropriation is \$2,500,000 in each fiscal year from the Local Government Economic Development Fund for the purpose of enhancing education technology in local school districts within coal-producing counties. The Commissioner of Education shall use the appropriation in this subsection to continue the Coal County Computing program in conjunction with the Cabinet for Economic Development through its Department of Commercialization and Innovation.

**(2) Education Technology Program:** Included in the above General Fund appropriation is \$17,361,800 in fiscal year 2010-2011 and \$17,188,100 in fiscal year 2011-2012 for the Education Technology Program.

### 3. LEARNING AND RESULTS SERVICES

	2010-11	2011-12
General Fund (Tobacco)	2,150,000	2,050,000
General Fund	887,490,300	886,882,200
Restricted Funds	3,357,800	3,363,100
Federal Funds	1,016,067,300	837,825,600
TOTAL	1,909,065,400	1,730,120,900

**(1) Funding for Employer Health and Life Insurance:** If the costs for health insurance or life insurance coverage for employees of local school districts exceed the levels of appropriated funds, any unexpended Support Education Excellence in Kentucky appropriations may be used to offset the unbudgeted costs. Any transfer shall be subject to approval of the Governor upon the written recommendation of the State Budget Director pursuant to the written request of the Commissioner of Education. The per-month per-employee administrative assessment shall be remitted to the Personnel Cabinet by the Department of Education from the General Fund appropriation for local school district health and life insurance.

(2) **Kentucky Education Technology System:** The School for the Deaf and the School for the Blind shall be fully eligible, along with local school districts, to participate in the Kentucky Education Technology System in a manner that takes into account the special needs of the students of these two schools.

(3) **Family Resource and Youth Services Centers:** Funds appropriated to establish and support Family Resource and Youth Services Centers shall be transferred in fiscal year 2010-2011 and in fiscal year 2011-2012 to the Cabinet for Health and Family Services consistent with KRS 156.497. The Cabinet for Health and Family Services is authorized to use, for administrative purposes, no more than three percent of the total funds transferred from the Department of Education for the Family Resource and Youth Services Centers. If a certified person is employed as a director or coordinator of a Family Resource and Youth Services Center, that person shall retain his or her status as a certified employee of the school district.

If 70 percent or more of the funding level provided by the state is utilized to support the salary of the director of a center, that center shall provide a report to the Cabinet for Health and Family Services identifying the salary of the director. The Cabinet for Health and Family Services shall transmit any reports received from Family Resource and Youth Services Centers pursuant to this paragraph to the Legislative Research Commission.

(4) **Health Insurance:** Included in the above General Fund appropriation is \$609,013,700 in fiscal year 2010-2011 and \$614,768,000 in fiscal year 2011-2012 for employer contributions for health insurance and the contribution to the health reimbursement account for employees waiving coverage.

(5) **Program Flexibility:** Notwithstanding KRS 157.226(2) and (3), 157.3175(3) and (4), and 160.345(8) with regard to the state allocation, four programs (Professional Development, Extended School Services, Textbooks, and Safe Schools) shall continue to permit the state and local school districts additional flexibility in the distribution of program funds while still addressing the governing statutes and serving the need and the

intended student population. Notwithstanding KRS 157.226(2) and (3), 157.3175(3) and (4), and 160.345(8) with regard to the state allocation, local school districts may use funds from the Professional Development, Extended School Services, Textbooks, and Safe Schools programs to supplement the Preschool program in fiscal year 2010-2011 and in fiscal year 2011-2012.

**(6) Publishing Requirements:** Notwithstanding KRS 160.463 and 424.220, public availability of the school district's complete annual financial statement and the school report card shall be made by publishing the documents in the newspaper of the largest general circulation in the county, electronically on the Internet, or by printed copy at a prearranged site at the main branch of the public library within the school district. If publication on the Internet or by printed copy at the public library is chosen, the superintendent shall be directed to publish notification in the newspaper of the largest circulation in the county as to the location where the document can be viewed by the public. The notification shall include the address of the library or the electronic address of the Web site on the Internet where the documents can be viewed.

**(7) Locally Operated Vocational Programs:** Notwithstanding KRS 157.069, the supplemental funding distribution shall include Category II and III programs in districts established after June 21, 2001, with state assistance, if approved by the Commissioner of Education.

**(8) Coordination With Head Start:** Each local district shall work with Head Start and other existing preschool programs to avoid duplication of services and programs, to avoid supplanting federal funds, and to maximize Head Start funds in order to serve as many four year old children as possible, and shall maintain certification from the Head Start director that the Head Start Program is fully utilized. If a local district fails to comply with the requirements of this subsection, the Commissioner of Education shall withhold preschool funding for an amount equal to the number of Head Start eligible children served in the district who would have been eligible to be served by Head Start

under the full utilization certification required under this subsection. The Commissioner of Education shall resolve any disputes and make a determination of the district's compliance with the full utilization requirement.

**(9) Highly Skilled Educators:** Notwithstanding KRS 158.6455(3), 158.782, and 160.350(3), the Kentucky Department of Education shall have the authority to expend moneys appropriated for the Highly Skilled Education Assistance Program in fiscal year 2010-2011 on intervention services that may be required by the Federal No Child Left Behind Act of 2001 (Public Law 107-110). No funds are provided for the Highly Skilled Education Assistance Program in fiscal year 2011-2012.

**(10) Commonwealth School Improvement Fund:** Notwithstanding KRS 158.805, the Commissioner of Education shall be authorized to use the Commonwealth School Improvement Fund to provide support services to schools needing assistance under KRS 158.6455 or in order to meet the requirements of No Child Left Behind.

**(11) Advisory Council for Gifted and Talented Education:** Notwithstanding KRS 158.648(1), a member of the State Advisory Council for Gifted and Talented Education may be reappointed but shall not serve more than three consecutive terms. Notwithstanding KRS 158.648(1), a member of the Kentucky Association for Gifted Education shall be a voting member of the State Advisory Council for Gifted and Talented Education.

**(12) Allocation of Safe School Funds:** Notwithstanding KRS 158.446, the Center for School Safety shall develop and implement allotment policies for all moneys received for the purposes of KRS 158.440, 158.441, 158.442, 158.445, and 158.446.

**(13) Allocations to School-Based Decision Making Councils:** Notwithstanding KRS 160.345(8), for fiscal years 2010-2011 and 2011-2012, a local board of education may reduce the allocations to individual schools within the district as outlined in 702 KAR 3:246, secs. 6, 7, and 8. The allocation under 702 KAR 3:246, sec. 6, shall not be less than \$100 per pupil in average daily attendance.

**(14) Kentucky School for the Blind and Kentucky School for the Deaf:**

Included in the above General Fund appropriation is \$6,826,500 in each year of the fiscal biennium for the Kentucky School for the Blind, and \$10,041,500 in each year of the fiscal biennium for the Kentucky School for the Deaf.

**(15) Learning and Results Services Programs:** Notwithstanding KRS 156.265, included in the above General Fund appropriation are the following allocations for the 2010-2012 fiscal biennium:

(a) \$1,351,600 in fiscal year 2010-2011 and \$1,338,100 in fiscal year 2011-2012 for the ACT and WorkKeys testing;

(b) \$96,500 in fiscal year 2010-2011 and \$95,500 in fiscal year 2011-2012 for the Appalachian Learning Disabled Tutoring;

(c) \$595,200 in fiscal year 2010-2011 and \$589,200 in fiscal year 2011-2012 for the Blind/Deaf Residential Travel Program;

(d) \$1,351,600 in fiscal year 2010-2011 and \$1,338,100 in fiscal year 2011-2012 for the Collaborative Center for Literacy Development;

(e) \$8,036,600 in fiscal year 2010-2011 and \$7,956,200 in fiscal year 2011-2012 for the Commonwealth Accountability Testing System-Report Card;

(f) \$1,455,800 in fiscal year 2010-2011 and \$1,441,200 in fiscal year 2011-2012 for the Commonwealth School Improvement Fund;

(g) \$2,027,400 in fiscal year 2010-2011 and \$2,007,100 in fiscal year 2011-2012 for the Community Education Program;

(h) \$696,000 in fiscal year 2010-2011 and \$689,000 in fiscal year 2011-2012 for the Dropout Prevention Program;

(i) \$467,600 in fiscal year 2010-2011 and \$463,000 in fiscal year 2011-2012 for the Elementary Arts and Humanities Program;

(j) \$482,700 in fiscal year 2010-2011 and \$477,900 in fiscal year 2011-2012 for the Every1 Reads Program;

(k) \$12,771,700 in fiscal year 2010-2011 and \$12,643,900 in fiscal year 2011-2012 for the Extended School Services Program;

(l) \$54,599,200 in fiscal year 2010-2011 and \$54,053,200 in fiscal year 2011-2012 for the Family Resource and Youth Services Centers Program;

(m) \$246,200 in fiscal year 2010-2011 and \$243,700 in fiscal year 2011-2012 for the Georgia Chaffee Teenage Parent Program;

(n) \$6,875,400 in fiscal year 2010-2011 and \$6,806,700 in fiscal year 2011-2012 for the Gifted and Talented Program;

(o) \$5,189,600 in fiscal year 2010-2011 for the Highly Skilled Educator Program;

(p) \$368,200 in fiscal year 2010-2011 and \$364,600 in fiscal year 2011-2012 for the Leadership and Mentor Fund;

(q) \$2,343,000 in fiscal year 2010-2011 and \$2,319,500 in fiscal year 2011-2012 for the Local School District Life Insurance;

(r) \$11,876,700 in fiscal year 2010-2011 and \$11,757,900 in fiscal year 2011-2012 for the Locally Operated Vocational Schools;

(s) \$5,696,100 in fiscal year 2010-2011 and \$5,639,100 in fiscal year 2011-2012 for the Mathematics Achievement Fund;

(t) \$374,100 in fiscal year 2010-2011 and \$370,300 in fiscal year 2011-2012 for the Middle School Academic Center;

(u) \$332,100 in fiscal year 2010-2011 and \$328,800 in fiscal year 2011-2012 for the Partnership for Student Success Program;

(v) \$72,531,600 in fiscal year 2010-2011 and \$71,806,300 in fiscal year 2011-2012 for the Preschool Program;

(w) \$6,027,000 in fiscal year 2010-2011 and \$5,966,700 in fiscal year 2011-2012 for the Professional Development Program (Staff Development);

(x) \$960,300 in fiscal year 2010-2011 and \$950,700 in fiscal year 2011-2012 for the Professional Growth Fund;

(y) \$18,882,400 in fiscal year 2010-2011 and \$18,693,600 in fiscal year 2011-2012 for the Read to Achieve Program;

(z) \$4,546,600 in fiscal year 2010-2011 and \$4,501,100 in fiscal year 2011-2012 for the Safe Schools Program;

(aa) \$482,700 in fiscal year 2010-2011 and \$477,900 in fiscal year 2011-2012 for the Save the Children/Rural Literacy Program;

(ab) \$4,212,500 in fiscal year 2010-2011 and \$4,170,400 in fiscal year 2011-2012 for the School Food Services;

(ac) \$10,583,400 in fiscal year 2010-2011 and \$10,477,500 in fiscal year 2011-2012 for the State Agency Children Program;

(ad) \$1,544,700 in fiscal year 2010-2011 and \$1,529,300 in fiscal year 2011-2012 for the Teacher Academies Program;

(ae) \$1,821,500 in fiscal year 2010-2011 and \$1,803,300 in fiscal year 2011-2012 for the Teacher Recruitment and Retention Program-Educator Quality & Diversity;

(af) \$646,900 in fiscal year 2010-2011 and \$640,400 in fiscal year 2011-2012 for the Textbooks Program;

(ag) \$772,300 in fiscal year 2010-2011 and \$764,600 in fiscal year 2011-2012 for the Virtual Learning Program; and

(ah) \$589,200 in fiscal year 2010-2011 and \$583,300 in fiscal year 2011-2012 for the Writing Program.

**(16) Local District Grant Carry Forward:** Notwithstanding 2008 Ky. Acts ch. 127, Part I, D., 3., (17), KRS 158.792(2), and 158.844(5), any non-SEEK state grant funds appropriated to the Department of Education to be disbursed to local school districts that are unexpended during fiscal year 2009-2010 shall lapse to the General Fund.

**(17) School Calendars:** Prior to the approval of school calendars for fiscal year 2010-2011, the Kentucky Board of Education shall by administrative regulation establish

procedures by which the Commissioner of Education may approve innovative alternative school calendars. No later than October 31, 2010, the Department of Education shall report to the Interim Joint Committee on Education the results for the state assessment system, the norm referenced test, and the EXPLORE, PLAN, and ACT tests for each school district with a school calendar of less than 177 school days.

**(18) Surplus Property:** Notwithstanding KRS 45A.045, 45.777, and 56.463, any funds received by the Commonwealth from the disposal of any surplus property at the Kentucky School for the Blind and the Kentucky School for the Deaf shall be deposited in a restricted account and shall not be expended without appropriation authority granted by the General Assembly.

**(19) Use of Local District Capital Funds:** Notwithstanding KRS 157.420(4) and (6), 157.440, and 157.621, a local board of education may submit a request to the Commissioner of Education to utilize any capital funds, regardless of the source, for general operating expenses in fiscal year 2010-2011 and fiscal year 2011-2012 without forfeiting the district's eligibility to participate in the School Facilities Construction Commission program. Prior to August 1, 2010, the Kentucky Board of Education shall approve guidelines to be followed in considering such requests from local boards of education.

**(20) Dual Course Credit:** Notwithstanding any statute to the contrary, the Commissioner of Education may approve a plan that is established by a local school board and a Southern Association of Colleges and Schools accredited postsecondary education institution for purposes of granting high school and college credit and which allows students to fulfill high school graduation requirements and compulsory school attendance; providing rigorous academic curriculum within a supportive and nurturing environment for underserved students; and encouraging academic success by linking students, teachers, and community partners in innovative ways.

#### **4. SUPPORT EDUCATION EXCELLENCE IN KENTUCKY (SEEK)**

**PROGRAM**

	<b>2010-11</b>	<b>2011-12</b>
General Fund	2,725,530,500	2,894,186,800
Federal Funds	182,486,200	-0-
<b>TOTAL</b>	<b>2,908,016,700</b>	<b>2,894,186,800</b>

**(1) Common School Fund Earnings:** Accumulated earnings for the Common School Fund shall be transferred in each fiscal year to the SEEK Program.

**(2) Base SEEK Allotments:** Notwithstanding KRS 157.420(2), included in the above General Fund appropriation is \$1,852,856,400 in fiscal year 2010-2011 and \$2,034,512,800 in fiscal year 2011-2012 for the base SEEK Program as defined by KRS 157.360. Included in the above Federal Funds appropriation is \$182,486,200 in Federal State Fiscal Stabilization Fund moneys in fiscal year 2010-2011 for the base SEEK Program as defined by KRS 157.360. Funds appropriated to the SEEK Program shall be allotted to school districts in accordance with KRS 157.310 to 157.440, except that the total of the funds allotted shall not exceed the appropriations for this purpose except as provided in this Act. Notwithstanding KRS 157.360(2)(c), included in the appropriation for the base SEEK Program is \$214,752,800 in each fiscal year for pupil transportation.

**(3) Tier I Component:** Included in the above General Fund appropriation is \$173,576,400 in fiscal year 2010-2011 and \$168,251,400 in fiscal year 2011-2012 for the Tier I component as established by KRS 157.440.

**(4) Vocational Transportation:** Included in the above General Fund appropriation is \$2,416,900 in each fiscal year for vocational transportation.

**(5) Secondary Vocational Education:** Included in the above General Fund appropriation is \$23,289,000 in each fiscal year to provide secondary vocational education in state-operated vocational schools.

**(6) Teachers' Retirement System Employer Match:** Included in the above General Fund appropriation is \$349,899,700 in fiscal year 2010-2011 and \$347,017,500

in fiscal year 2011-2012 to enable local school districts to provide the employer match for qualified employees as provided for by KRS 161.550.

**(7) Salary Supplements for Nationally Certified Teachers:** Notwithstanding KRS 157.395, included in the above General Fund appropriation is \$2,750,000 in each fiscal year for the purpose of providing salary supplements for public school teachers who have attained certification from the National Board for Professional Teaching Standards as of July 14, 2000, or thereafter. Notwithstanding KRS 157.395, if the appropriation is insufficient to provide the mandated salary supplement for public school teachers who have attained certification, the Kentucky Department of Education is authorized to pro rata reduce the supplement.

**(8) Allocation of SEEK Funds:** Notwithstanding KRS 157.360(2)(c), the above General Fund and Federal Funds appropriations to the base SEEK Program are intended to provide a base guarantee of \$3,868 per student in average daily attendance in fiscal year 2010-2011 and \$3,903 per student in average daily attendance in fiscal year 2011-2012 as well as to meet the other requirements of KRS 157.360.

Funds appropriated to the SEEK Program shall be allotted to school districts in accordance with KRS 157.310 to 157.440, except that the total of the funds allotted shall not exceed the appropriations for this purpose, except as provided in this Act. The total appropriation for the SEEK Program shall be measured by, or construed as, estimates of the state expenditures required by KRS 157.310 to 157.440. If the required expenditures exceed these estimates, the Secretary of the Finance and Administration Cabinet, upon the written request of the Commissioner of Education and with the approval of the Governor, may increase the appropriation by such amount as may be available and necessary to meet, to the extent possible, the required expenditures under the cited sections of the Kentucky Revised Statutes, but any increase of the total appropriation to the SEEK Program is subject to Part III, General Provisions, of this Act and the provisions of KRS Chapter 48.

**(9) Final SEEK Calculation:** Notwithstanding KRS 157.410, on or before March 1 of each year, the Commissioner of Education shall determine the exact amount of the public common school fund to which each district is entitled, and the remainder of the amount due each district for the year shall be distributed in equal installments beginning the first month after completion of final calculation and for each successive month thereafter.

**(10) SEEK Adjustment Factors:** Funds allocated for the SEEK base and its adjustment factors that are not needed for the base or a particular adjustment factor may be allocated to other adjustment factors, if funds for that adjustment factor are not sufficient.

**(11) Facilities Support Program of Kentucky/Equalized Nickel Levies:** Included in the above General Fund appropriation is \$76,922,100 in fiscal year 2010-2011 and \$73,515,300 in fiscal year 2011-2012 to provide facilities equalization funding pursuant to KRS 157.440 and 157.620.

**(12) Growth Levy Equalization Funding:** Included in the above General Fund appropriation is \$14,442,700 in fiscal year 2010-2011 and \$13,291,300 in fiscal year 2011-2012 to provide facilities equalization funding pursuant to KRS 157.440 and 157.620, for districts meeting the eligibility requirements of KRS 157.621(1) and (4).

**(13) Retroactive Equalized Facility Funding:** Included in the above General Fund appropriation is \$8,176,300 in fiscal year 2010-2011 and \$8,203,400 in fiscal year 2011-2012 to provide equalized facility funding pursuant to KRS 157.440 and 157.620 to districts meeting the eligibility requirements of KRS 157.621(2) and (4) notwithstanding the April 24, 2008, deadline. This appropriation applies to school districts that levied the tax rate subject to recall prior to January 1, 2010. For the 2010-2012 fiscal biennium, equalization shall be provided to a local school district that levies a tax pursuant to KRS 157.621(1)(c) in fiscal year 2010-2011 at 25 percent of the calculated equalization funding in fiscal year 2011-2012. It is the intent of the 2010 General Assembly that any

school district receiving partial equalization under this subsection in the 2010-2012 fiscal biennium shall receive full calculated equalization in the 2012-2014 fiscal biennium and thereafter.

**(14) Equalized Facility Funding:** Included in the above General Fund appropriation is \$6,448,200 in fiscal year 2010-2011 and \$6,166,400 in fiscal year 2011-2012 to provide equalized facility funding pursuant to KRS 157.420 and 157.620 to districts meeting the eligibility requirements of KRS 157.621(3) and (4).

**(15) Instructional Days:** Notwithstanding KRS 158.070, the school term for fiscal year 2010-2011 and fiscal year 2011-2012 shall include the equivalent of 177 six-hour instructional days. Districts may exceed 177 six-hour instructional days. Included in the above General Fund appropriation are sufficient funds for 176 six-hour instructional days.

**(16) Use of Excess SEEK Funds:** Notwithstanding 2009 (1st Extra. Sess.) Ky. Acts ch. 2, Section 6, (18), any unexpended SEEK appropriations for fiscal year 2009-2010 as determined on or before March 1, 2010, by the Kentucky Department of Education shall lapse to the General Fund.

**(17) Use of SEEK Funds:** To receive funds under the SEEK program, district number 301 shall maintain operation of school number 170 during the time this budget is in effect.

**TOTAL - DEPARTMENT OF EDUCATION**

	<b>2010-11</b>	<b>2011-12</b>
General Fund (Tobacco)	2,150,000	2,050,000
General Fund	3,657,868,800	3,822,871,900
Restricted Funds	5,601,400	5,632,400
Federal Funds	1,214,581,300	848,353,400
<b>TOTAL</b>	<b>4,880,201,500</b>	<b>4,678,907,700</b>